



AMA CHARTER 339

July 2008

VOLUME 45 NUMBER 7

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GENERAL MEETING

Wednesday
July 16th
7:30 PM

This month's Club Meeting
will be held at the **Davis Field**
in **Sudbury, MA** Guests are
welcome

COME FLY WITH US



UPCOMING EVENTS

July 13, 2008

**Burlington RC Flyers
Fly-in and BBQ**

Burlington, MA

July 12 & 13

**CRRC Hand Launch
Classic (HLG)**

Davis Field, Sudbury MA

July 16, 2008

CRRC Monthly Meeting

Time: 7:30pm

Davis Field, Sudbury, MA

July 22, 2008

CRRC Board Meeting

Date: July 22, 2008

Time: 7:30pm - 9:00pm

Location: Sudbury Library

July 26 & 27

CRRC RES Contest

Davis Field, Sudbury MA

August 9 & 10

CRRC Soar-In

Davis Field, Sudbury MA

July 19 & 20

**AMA District 1
Fun-Fly & Air Show**

University of Rhode Island
Kingston, RI.

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President's Letter



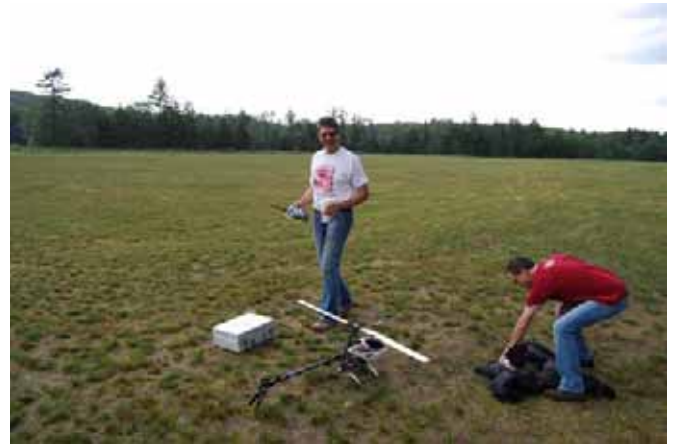
Ernie Huber Memorial Helicopter Fun Fly, June 21 & 22, Crowe Island

I went on Sunday June 22. There was unusually light attendance. The day was forecast to be thunderstorms which probably contributed to the attendance. Imagine that lately? All the pilots on Sunday were from up north and had camped out for the weekend. It ended with a thunderstorm in the very early afternoon. I did get to see a Can-Am Spyder in person. Where are the main rotors?



I was able to see another sign of the changing times. Alex of Alex's RC Hobbyworks in Belmont arrived with his T-Rex 600 electric (50 size with 600mm rotors). Alex told me that he sold his 60 size Raptor and his Miniature Aircraft glow ships. I can remember a while ago when I asked Alex about electric helicopters, particularly micros. He was not a big fan. He is now with the great improvements! He arrived late with his

family and didn't even get to run out one battery pack before a really nasty thunderstorm came over and chased the last of us away.



I missed the carnage of this flight by just a few minutes. Tracy Clark was there with his two children. They saw it happen. Tracy said that the pilot said that it was only a \$60 crash since he had all the spare parts at home to fix it. Is there such a thing as a cheap crash? Free Lunch? Somebody paid for those parts!



Burlington RC Summer Fly-in and BBQ July 13, 10 AM – 2 PM (RESCHEDULED)

One of the Burlington club members stopped by at the Collings Foundation and told me about this event. You can watch Mitch and Jack Buckley fly. Don't we know those guys? ☺ They have BBQ food available for purchase. Raffles, introductory lessons ...

<http://www.burlington-rc.com>



AMA District 1 Sponsored Fun-Fly & Air Show, July 19 & 20

At the University of Rhode Island Balloon Festival. URI Athletic fields off Route 138 in Kingston, RI. Festival Information at Wakefield Rotary Club web site, www.wakefielddri.clubwizard.com



New England Jet Rally, August 15 – 17

Templeton, MA (C) New England Jet Rally. Site: Gardner Municipal Airport. Keith Swenson Sr CD, 18 Christmas Tree Dr, Ashburnham, MA 01430 PH: 978-827-4402 e-mail:

keith@nerdcenter.net. Visit

www.wachusettsbarnstormers.com

Sponsor: WACHUSETTS BARNSTORMERS

Check www.amadistrict1.com for other events!

“Let’s be careful out there.”

-Tony Davids



Treasurers Report

Report Date 07/09/08

Starting Balance 06/01/08

Checking	\$5,633.12
Cash Box	\$25.00
PayPal Acct	\$131.15
CD Accounts	\$6,537.42
Total Starting	\$12,326.69

Income

Interest - CDs	\$16.02
Transfer from PayPal Acct	\$131.15
Total Income	\$147.17

Expenses

Total Expenses	\$0.00
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Ending Balances

Checking	\$5,764.27
Cash Box	\$25.00
PayPal Acct	\$0.00
CD Accounts	\$6,553.44

Grand Total Ending 06/30/08	\$12,342.71
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-Istvan Sleder, Treasurer



JUNE GENERAL MEETING MINUTES



General Meeting Minutes for June 18, 2008.

The June meeting was held “on the field” at Bill Martin Field, Medfield, MA. Some members arrived early to fly before the meeting. However, their efforts were shortchanged as a heavy shower moved through the area. Planes were put under cover, as everyone waited for the showers to pass, and after about a 20 minutes, the skies began to clear in time to start the meeting. There were about fifteen members in attendance.



Business Meeting

The meeting was called to order by President Tony Davids at 7:26 PM, at Bill Martin Field, Medfield, MA.

The treasurer’s report and secretary’s meeting minutes were approved as written in the June newsletter.

The general meeting for July and August, will be “on the field” at Sudbury’s Davis Field.

Field Reports

Bill Martin Field is in fine shape, although the grass on the runway is high.

The report from Davis Field is that soccer is done for the season, and the goals are down.

Nashawtuc Country Club is hosting a golf tournament June 16-22, and will be parking at Davis Field. CRRC members will not be charged for parking.

Board of Directors Volunteer

Alan Marshall volunteered to attend the Board of Directors meeting as members at large.



Old Business

No Old Business

New Business

No New Business

Solos

No new pilots this month.

Guests

No guests this month.

Raffle Winners

No raffle.

Guest Speaker

No guest speaker.

Meeting Adjourned

The meeting was adjourned at 7:33 PM. Let the flying begin! Tony Davids and Bob Scott gave some buddy box training to student Bruce Harmon.



However, an in-flight emergency cut their flying short when the fuel tank in Bob's plane developed a leak. The plane landed safely, but was soaked with fuel.

David and Alan Marshall sent their Electric Easy Glider up for a spin, but a motor failure shortly after takeoff also cut their flying time.



Jeremy Harkin put on a good show with his gas powered 3-D model. Istvan Sleder had a good time flying his low wing model.



Tony and Jon Leehey had fun flying their electric helicopters.



- *Larry Wetmore*
Recording Secretary

Collings Foundation Open House 2008

Tony Davids already wrote a short paragraph about the Collings Foundation Open House 2008 event in last month's Newsletter.

Tony and I had agreed on meeting at the foundation on Friday around 5:30. I left the office a little earlier to beat the traffic from South Boston. The foundation was gearing up as well. The grass was very burnt this year and the sprinklers didn't seem to have much of an effect.

As soon as Tony arrived, we were informed as were the RC flight line should be. This year, because of a new fueling system for the PT-17 Stearman and the T-6 Texan, we were instructed to setup on the right side of the field.

Tony and I got to work. We set our red cones to approximate the runway. Tony then got his hands on a lawn mower tractor. He started to mow right down the middle of makeshift runway.

I got pretty good a signaling Tony so he could be on track and not miss any spots. In all tony mowed the runway about 4 times. Each time we set the blades a little lower to really trim down the grass. I think we were able to take off close to 3 additional inches. Since we were having so much fun, we decided to be nice and also make a taxi way.

It was quite warm, and the sprinklers became a nice way to cool off. The most intensive part was raking the cut grass together and dumping it in the woods. I was drenched in sweat. Tony kept telling me not to overdo it. He was concerned that something could happen to me. I was exhausted and believe it or not, the best part of that day was taking a nice cold shower once I got home.

On Friday morning Jeremy Harkin and Tony arrived shortly after I did and helped setup the canopies and the flight line.



Bob Scott, Jon Leehey, Alan & David Marshal and several other pilots joined the RC flight crew. The P-17 Stearman and the T-6 Texan were busy over the weekend. I recall that the flight were sold out over the weekend.



This year the Collings Foundation offered 30 and 60 minute flights. We initially thought that it would allow us to have a little more air-time. However it was challenging since the flight were not always synchronized.



Jeremy among others put on a great 3-D show. I could hear the crowd in awe when Jeremy performed a torque roll. The audience could not believe that a propeller plane could be suspended in the air. Other interesting RC performances included Raja and his 3D maneuvers with his helicopters. His autorotation, rolls, and loops maneuvers really impressed the audience. Climbing to about 100 ft, cutting the throttle, letting the helicopter plummet towards the ground, and at the last minute reverse the blades to gently set the aircraft on the ground kept everybody speechless. Another great feature these days were the scale aircrafts.



Another fascinating display and performance were Adam Tashjian's scale helicopters. Adam showcased a forest service fire fighting helicopter and a turbine Bell Huey UH-1.



It was fun and I am looking forward to next year's event. Thanks to Dan Murphy for such excellent close-up pictures.

- *Thomas Stammberger*

The Brushless WingDragon 4

The beginning

Since I got back into the hobby two years ago, my favorite plane from my fleet continues to be my brushless WingDragon 4 (WD4). Not only is it a great park-flyer, it is also a great glider and trainer. With my WD4 I have reached altitudes above 2600 ft (above ground), I have flown in 18+ mph winds gusting to 26+ mph, I have performed aerobatic maneuvers, and I have trained several folks.

There are three WingDragon models manufactured by Art-Tech:



The 3 CH Slow-Flyer



The 4 CH Sportster (a.k.a. BeginAir)



The 4 CH WingDragon 4

You will also find slightly cheaper replicas in the market known as Fly-Dragon and Tiger-Wing. Vendors in the US include Hobby-Lobby, ParkFlyers.com, and BannaHobby. All three models are RTF, however you can build your own unique version from spare parts.

I started off with the 3 channel WD Slow-Flyer. The issue I faced right at the beginning was that the radio and receiver were on 27 MHz. Yes, the plane crashed within 2 weeks of its maiden flight. I was on level flight at about 60 ft of the ground when a kid in one of the neighboring houses came out turned on his toy RC truck. The plane banked left and went straight into the ground. I had lost full control of the plane. I ruled out a thermal shutdown since the battery and motor were cool to the touch. I didn't hesitate to upgrade the radio and receiver to 72 MHz.

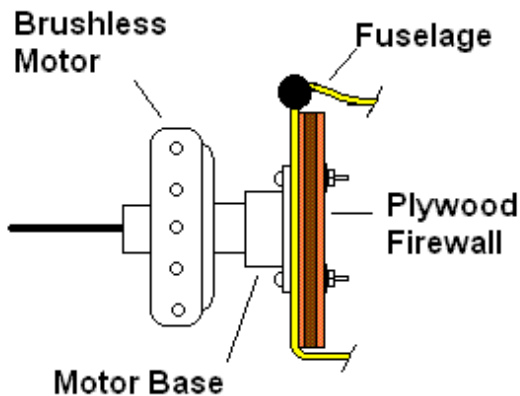
As I built my skills I got interested in aerial video and photography. My best video setup includes three 5-in-1 eDVR cameras. They are light weight and their shape is somewhat aerodynamic, thus reducing drag when mounted.

With six NiMH batteries I did some serious flying. There wasn't a single weekend that I wasn't flying. It was in March 2007 that it became very noticeable that the original Speed 400 brushed motor had reached the end of its life. As a matter of fact, I could barely take off. You can watch those take-off attempts in my video about CRRC. The plane simply had no power at full throttle. Even with a fully charged battery. That was the time when I decided to venture into brushless motors and LiPo batteries.

The upgrade to brushless and LiPo batteries.

I basically degutted the plane. I removed the brushed motor, ESC and rudder and elevator servos. For my first upgrade attempt, I added a small plywood firewall for the motor to give it more support and stability. I carefully cut and sanded the firewall and ensured a tight fit. I secured the firewall to the plastic with epoxy. I also needed to strengthen and support the area by the wing saddle and the motor mount. I cut and shaped an additional rectangular piece of

plywood and glued it in place inside of the fuselage.



For the brushless motor I chose to go with the TowerPro 2408-21T-3A. I did some research and asked on the online discussion groups and many recommended that motor. I used the 1/2 2-56 Round-head machine screws with the head on the outside and the nuts and washer on the inside. Once tightly fastened, I locked the nuts with a little epoxy. I know, I could have used Lock-Tight.

In order to minimize drag caused by the motor wiring, I opted to bring the cables into the fuselage through a small hole below the 6 o'clock mark of the motor base. For the ESC I chose the Hi-Model Professional 18A ESC. As a matter of fact you can now get the ESC and Brushless Motor combo for about \$20.

In terms of the battery, I wanted to ensure sufficient power and most importantly the size. I wanted the battery to perfectly fit in the original location where the NiMH battery sat. I chose the Thunder Power 3 cell 11.1V 1320 mAh LiPo. It fits nicely in the nose cone.



For the propeller I chose the GWS EP 7060 which is a 7x6 prop. The limitation is the tail boom. A prop larger than 7" hits the boom. I also replaced the cheap/original rudder and elevator servos with two HiTec HS-85BB Mighty Micro servos. They have worked great since the upgrade. Finally there were the wheels. I wanted to make sure I could take off from a grass surface. Therefore I replaced the original wheels with 2.5" wheels.



Balancing the plane was straight forward. I maintained the original CG location at the leading edge of the wing joiner (7.1 cm from the leading edge of the wing). At first the plane was a little

tail heavy; the cause was the LiPo battery. They are lighter than its NiMH counterpart. I added a 1oz piece of lead in the nose cone – it worked fine.



The plane balanced beautifully. I ran some static thrust test, and I was impressed. I knew that this hybrid WD4 would boggy. After the conversion the AUW came out to be 686g (24.86oz). With the three 5-in-1 eDVRs mounted in the cockpit area, the AUW came out to be 746g (26.31oz).

The first Test-flight

It was a little wind that day, 12-14 mph winds gusting to about 20 mph. I started with my usual pre-flight and radio check. Everything checked out fine. On the ground, I pointed my WD4 into the wind, yelled out the usual: "Taking off", and throttled up. My new brushless WD4 took off in less than 10 feet on a grass surface. The plane almost went into a vertical climb and got to about 300 ft in no-time. I couldn't believe it. That day I had a blast doing loops, rolls and inverted flight at 33% throttle. I even got some nice video footage. Of course, it is posted on YouTube.

After a while I decide to climb to about 1000ft. I brought the throttle up to about 60% and went into a 70 degree climb. With the wind I had to circle around a few times. I reached the same altitude of a Hawk that was minding his own business up there. I cut the throttle and began to glide. The WD4 is a floater, and to top it all off, it climbs nicely in a thermal. I spent a good 20 minutes gliding and circling over Davis Field.

I had to engage the motor a few times to regain some altitude. I could not be happier.



I decided to play it safe and bring the plane in for a landing since it was the first time of extended use of the batteries. I brought the WD4 down to about 50 ft and circled the field at slow speed. I could tell the battery didn't have much power left; however I still had enough to come around and end the test flight with a perfect landing.

Playing it safe

I can say that I have pushed the envelope with the WD4. Since safety is my number one concern, the "What if ..." questions prevail. What if a tail surface brakes off at high altitudes? What if the control surfaces do not support the stresses of dives, barrel rolls and any other non standard maneuvers caused by student pilots? Remember the saying: "What goes up must come down; the question is how".

After getting footage of several aerobatic maneuvers, the inevitable happened. As I was coming out of a high-G loop, my right wing broke off at the end of the wing joiner. As the wing detached in the air, it broke the prop, and tore off the vertical stabilizer. My WD4 went nose first in to high grass from about 60 ft.

Upon initial inspections all my electronics and motor seemed to work fine. The fuselage withstood the impact very well. The wing suffered major damage, and the vertical stabilizer was gone. Viewing it from a positive perspective,

my “What if ...” questions were answered, so I had a great opportunity to make improvements to strengthen the wing, stabilizers and control surfaces.

Vertical stabilizer

One of the weak points of the WingDragon is the vertical stabilizer. The stabilizer’s mounting plate does not provide a large enough surface to withstand the large forces and pressures caused by G-forces and the wind. After carefully evaluating several options, I found the implant of two flat carbon-fiber rods close to the screws to be the best alternative. It almost made the vertical stabilizer un-breakable.



In addition, I glued the stabilizer to the base with 5-min Epoxy. It is also important to point out that the tail surfaces are not CA friendly, not even to foam-safe CA. The material will soften and melt with regular or foam-safe CA and the kicker. Hence make sure to use epoxy.

I also made a small surface incision on both side of the hinges and secured them with hinge-tape. This allowed to rudder to move freely and eliminated the bending of the control rod.

Horizontal stabilizer

As I was trying to put the tail assembly together I noticed that the holes in the horizontal stabilizer were too far back making it impossible to mount the vertical stabilizer. I opened two new holes closer to the leading edge and ensured that there was a perfect alignment with the vertical stabilizer. I cut a couple of pieces of foam and

glued them into the original holes with epoxy. I also covered the center with clear packing tape for extra strength. As I did with the rudder I also made a small incision on both sides of the elevator hinges and covered them with hinge-tape. Once again the control surface was able to move freely and the control rod stopped bending.

Ailerons

I strengthened the area where the control horns are attached to the aileron. I completely removed the ailerons from the new wing. I then cut out the square piece of foam where the control horn sits and replaced it with a square piece of plywood glued in with foam-safe CA. Yes, foam-safe CA works on the main wing but not on the tail surfaces.

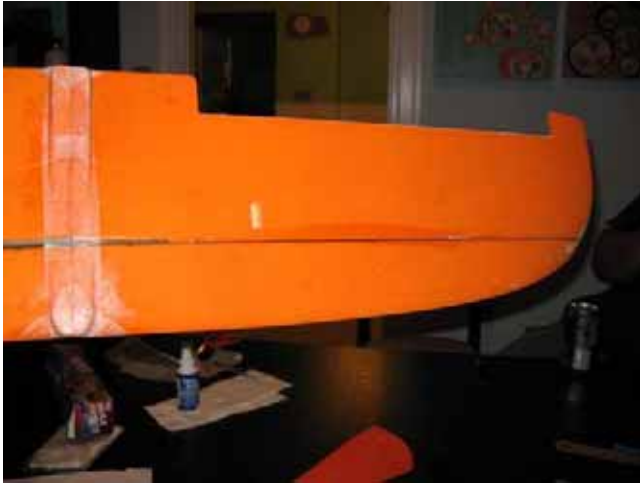


In addition I added a strip of fiber glass for extra strength and support. I then screwed and glued the control horns in place. The next step was to remove and replace the original paper-based hinge-tape with plastic tape and seat the ailerons back into the wing.



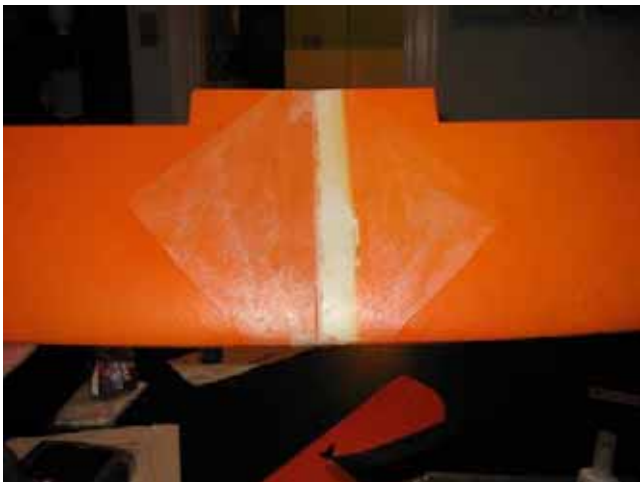
Wings

The first step was to remove the black rubber band cover to better manipulate the wings. I then traced a line where the flat carbon fiber rods would go in each wing for added strength. I cut a small groove and ensured there was a perfect fit of the carbon rods.



I then proceeded to glue the wing-halves together with epoxy making sure there was a flush fit at the center. Once the epoxy had set, I went ahead and glued in the carbon rods with foam-safe CA.

The next step was to add the fiber-glass diamond to strengthen the center join of the wing and make sure the stress forces are disbursed towards to tip of the wing. I also added a small strip of fiber-glass at the bottom of the wing. Once the fiber-glass and all the glues had a chance to set, it was time to file off the carbon rods at the tip of the wing.



Finishing the wing included gluing the black rubber-band cover back on the wing, and cutting out any sockets covered by the fiber-glass. Last was the installation of the servos and connecting the aileron control rods.



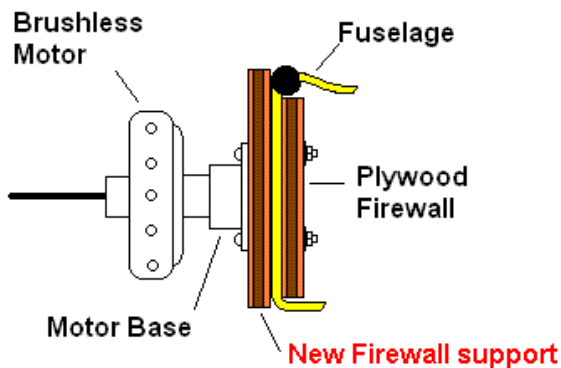
Final assembly

I installed the wing and trimmed all control surfaces to a neutral position by adjusting the control horn clevises. Everything seemed to work fine except when I was throttling up. There was a strange vibration and noise coming from the motor. Upon close inspection I noticed that the thrust vector was off and that the base of the motor was a little loose.

After removing the motor and the motor-base, it became apparent what the problem was; the motor-base had melted into the plastic.



The solution was to add a second motor firewall on the outside and basically sandwich the plastic fuselage between the plywood. This secured the motor to the plane and isolated the motor base from the plastic.



Success

My discussion thread on RC Groups about upgrading the WingDragon to brushless has been a success. I have lost count from all the people that upgraded their WingDragons and that continue to fly them. Several, after reading the thread, brought their old Wing Dragons back to life. People have compiled information from all the different posts and have created websites. The fact remains that after more than a year, people continue with the upgrades and are awed by what a brushless WingDragon can do.



If you see a little orange plane, high up with the big gliders, it may just be my brushless WD4.



Special thanks to my son Al, for all the help with the fiber-glass.

- *Thomas Stammberger*
Newsletter Editor

CRRC BUILDING AND FLIGHT INSTRUCTORS

To start your flight instruction; call Brian Rickman, the chief instructor and he will match you with one club instructors. Our instructors are qualified and willing AMA pilots and fellow club members.

See <http://www.charlesriverrc.org> for directions to the flying fields. If you have any questions about the construction of your airplane, or want to have an experienced pilot pre-flight check your airplane before heading to the flying field, then call Brian or any of the building instructors.

INSTRUCTOR CONTACTS

Chief Instructor:
Brian Rickman

[webmaster\(at\)charlesriverrc.org](mailto:webmaster(at)charlesriverrc.org)
774-249-2494

Power planes are flown only at the Bill Martin Flying Field in Medfield.

POWER:

Jeremy Harkin Waltham 781-894-6683
Jon Leehey Wayland 508 358 5721
Ruane Crummett Wayland 508-655-2234

ELECTRICS:

Bruce Schneider Hudson 978-562-9900
Fritz Bien Concord 978-369-1720
Lincoln Ross Waltham 781-891-0332
Dick Williamson Sudbury 978 443-8549
Tom Bauer Wellesley 781-235-7344

Sailplanes and Electrics can be flown at the Davis Farm Field on Rte. 117 in Sudbury.

SOARING:

Dick Williamson Sudbury 978 443-8549
Dave Walter Hudson 978-562-5400
Bruce Schneider Hudson 978-562-9900
Fritz Bien Concord 978-369-1720
John Nilsson Clinton 508-368-7136
Ken Antonellis Natick 508-653-8369
Tom Bauer Wellesley 781-235-7344

HELICOPTERS:

Tony Davids Stow 978-568-9598

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Derrick Veliz Acton 978-266-1739
Dick Williamson Sudbury 978-443-8549
Tom Bauer Wellesley 781-235-7344

TREE CLIMBERS, KEYS, MEMBERSHIP & BOARD MEETING

TREE CLIMBERS

Tony Morais

A1 Tree Services-Framingham, MA
508-626-0088 or 800-657-7788

Kenny Greeno

*Cell Phone: 617-201-5300
Office Phone: 617-661-8591

Paul Harrington

(508) 376-2573 [Medfield Area]

Scott

774-286-1190 [Marlborough]

Adam's Tree Service

617-592-5935

*Highly recommended

Keys to the Bill Martin Field

To get a Key for Bill Martin Field in Medfield please email Ken Antonellis at [kxa\(at\)verizon.net](mailto:kxa(at)verizon.net). Ken is the key-master. He will send out

instructions as soon as he hears from you. A \$5 deposit is required the first time you receive a key.

Alex of Alex's RC in Belmont also has keys. Show him a club badge to get the key.

MEMBERSHIP

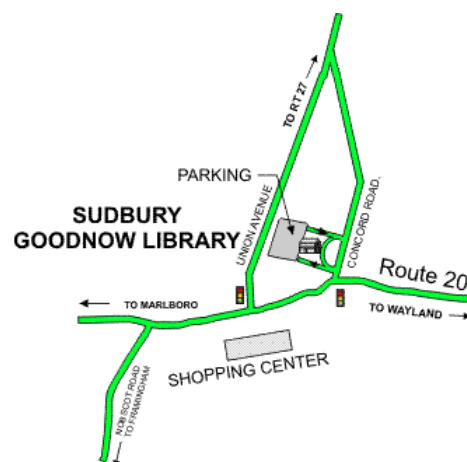
Here are the updated CRRC membership figures. The table summarizes the membership status from 1999 through current month, 2008.

Year	Renewals	New Members	Peak Totals
1999			135
2000	112	62	174
2001	124	50	174
2002	138	58	196
2003	156	40	196
2004	153	42	195
2005	144	20	164
2006	124	26	150
2007	132	32	164
2008			111

-Ray Harlan

MAY DIRECTORS MEETING

The next directors meeting will be, Tuesday, July 22th at 7:30 PM, at the Sudbury Goodnow Library. All club members are invited to attend. Please volunteer to attend at the next club meeting.





THE CHARLES RIVER RADIO CONTROLLERS, INC

2008 MEMBERSHIP APPLICATION

AMA Charter 339

Name _____ AMA No. _____

Street _____ Birth Date (AMA req'd) _____

Town _____ State _____ Zip _____ Tel. () _____ - _____

E-mail _____

To receive membership card and field pass, bring this application to a club meeting, or mail to the membership secretary (address below). You can pay by check or use PayPal. (PayPal to [membership\(at\)charlesriverrc.org](mailto:membership(at)charlesriverrc.org))

Make Checks Payable to:
Charles River RC

MEMBERSHIP CATAGORY		2008 Rates
<input type="checkbox"/> OPEN Member		\$45.00
<input type="checkbox"/> JUNIOR member, (under 19 before 7-1)		\$1.00
<input type="checkbox"/> SENIOR member, (if age 60 before 7-1)		\$35.00
<input type="checkbox"/> SENIOR member, (if age 75 before 7-1)		Free if AMA member
<input type="checkbox"/> Full time STUDENT		\$25.00
<input type="checkbox"/> Family member additional to OPEN membership		\$25.00

SAVE \$5 - EARLY BIRD DUES RATES ARE LISTED

Ray Harlan
Membership Secretary CRRC
15 Happy Hollow Road
Wayland, MA 01778
508-358-4013
E-mail: [membership\(at\)charlesriverrc.org](mailto:membership(at)charlesriverrc.org)

- ☐ I DO NOT want my address to appear in the club phone book

You must be an AMA member in order to receive your CRRC membership card.

To receive your newsletter by US mail, please contact Ray Harlan, Membership Secretary at the next meeting. See the newsletter cover sheet for additional contact information.

Help reduce operating costs by receiving your newsletter on line. CRRC pays roughly \$10 per year for each mailed newsletter subscription

CRRRC SUMMER CLUB MEETING – July 16, 2008

Guests are welcome!

When: *Every 3rd Wednesday of the month*

Note: Check for the meeting announcement in our monthly Newsletter.

Time: *7:30 p.m.*

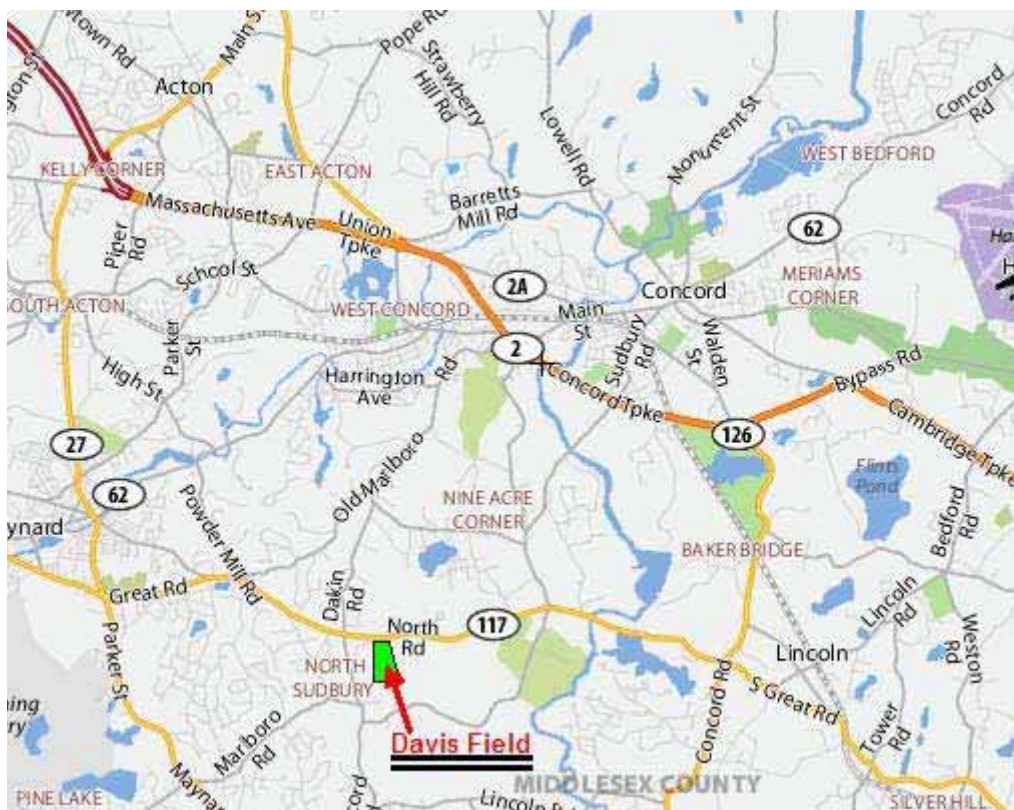
Where: *Davis Field, Sudbury, MA – (July & August meeting only)*

Directions: *From the West*

Take the Massachusetts Turnpike to Rt. 495 North. Take Exit 27 "Bolton and Stow" off of Rt. 495 and turn east toward Stow. You just stay on Rt. 117 all the way. The field is almost exactly 11 miles from Rt. 495. You will pass the following landmarks:

From the East:

From Rt. 128 (I95), take Rt. 2 west. At second set of lights turn left to stay on Rt. 2 (Mobil station will be on your right after the turn). Turn left at 4th set of lights onto Sudbury Rd (it's the next set of lights after you cross Rt. 126). Follow Sudbury Rd. south to intersection with Rt. 117 (Rossini's Restaurant is on the right at intersection). Turn right onto Rt. 117 going west, follow it for 1.5 miles. Field is on the left.



Thomas Stammberger
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