

HCRC Flyer

August 2024



A C5 Galaxy fly-by! - taken recently in front of
McKinstry's Market in Chicopee

HCRC Meeting Notes for the Thursday, June 13th, 2024 Business Meeting



No Quorum Present – 14 Members including 3 Executive Members present: Mike Shaw, Gus Coelho, Bill Ewers, Mark Wasielewski, Ron Paul, Bob Prosciak, Rick Thibault, Dan Kapinos, Bill Bellows, Karl Hathaway, Jose Villanueva, Jack Dawson, Wayne Dawson and Lou Enselek

Reading of the minutes from the previous month was waived. Club finances for the month of May were reported and approved.

We are working on fundraising to support the land purchase:

1. Go Fund Me – Now live! We ask everyone to alert their family and friends and ask them to donate! Mike sent out an email asking everyone to do this. Please feel free to copy and paste the email that he sent in your emails to you friends and family.
2. Selling Land Shares – We are now selling land shares. Please consider purchasing land shares to support this club initiative. Each share is a \$100 commitment and has a 5 year maturity period. We have generated over \$5,500 at this point. Our Go-Fund-Me is on the New England AMA website.

The club summer barbeque will be 10 to 3 on Saturday, June 15th. Please come out and spend the day flying and enjoying Chef Ron's food! We will also perform ½ hour of work to load brush and move it to Lenny's burn pile.

The new, short runway is marked out. Please do not drive on the new runway as this leaves ruts. There is a new ring road around the new runway. Please drive a clockwise circuit around the back of the sheds, unload and then move your car to the south end of our property.

Anyone who is not receiving the monthly newsletter should check their spam/junk folder. If the emails are ending up there, please right click on the email and designate it as a trusted email that you want to receive. Further, putting the club officers emails in your email as a known address. This should help you to receive emails from the club.

We are now locking the gate. Please lock the gate when you leave. Please note that the Hannigan's are also using the gate to access their land and have the gate combo.

The solar charging panel has been set up for club use. Dan Kapinos, Lou Enselek and Ron Paul have purchased some materials and have taken care of getting this project finished. Thanks to them for this effort!

We are considering donating one of the bleachers to FCRC as it does not fit on our land at this time. This will require a quorum vote to approve.

Next month's meeting falls on July 4th. We will postpone the meeting to July 11th.

We are still looking for a Vice-President. The club needs a volunteer! Please consider taking a leadership role in our club.

Ramon Villanueva was voted into the club.

HCRC Meeting Notes for the Thursday, July 11th, 2024 Business Meeting



Quorum Present – 15 Members including 3 Executive Members present: Mike Shaw, Gus Coelho, Bill Ewers, Ron Paul, Bob Prosciak, Dan Kapinos, Bill Bellows, Karl Hathaway, Wayne Dawson, Leland Johnston, Shawn Kelsey, David Whitely, Pat Malone, Dennis Walker and Lou Enselek

Reading of the minutes from the previous month was waived. Club finances for the month of June were reported and approved.

We are working on fundraising to support the land purchase:

1. Go Fund Me – Now live! We ask everyone to alert their family and friends and ask them to donate! Mike sent out an email asking everyone to do this. Please feel free to copy and paste the email that he sent in your emails to you friends and family.
2. Selling Land Shares – We are now selling land shares. Please consider purchasing land shares to support this club initiative. Each share is a \$100 commitment and has a 5 year maturity period.

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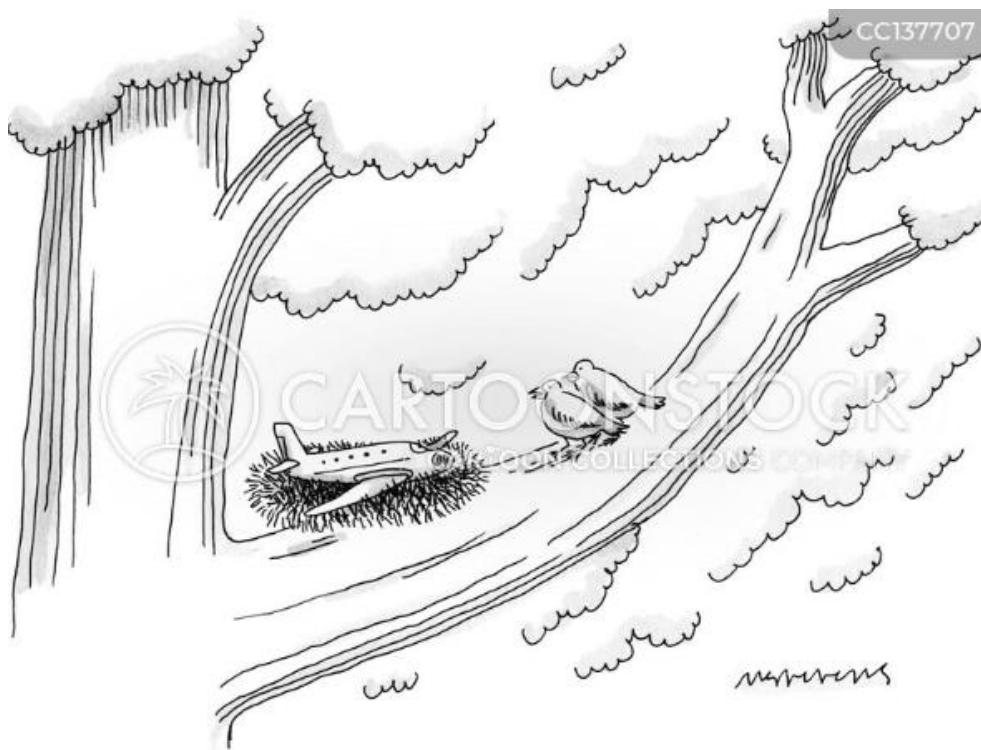
We are still looking for a Vice-President. The club needs a volunteer! Please consider taking a leadership role in our club.

Jeffery Suriano was voted into the club.

Flying News & Events

UPCOMING EVENTS

- **08/01** Business meeting at the flying field, 7pm.
- **08/10** Scale Fly-On, hosted by South Shore R/C Club, Bridgewater, MA (see flyer in this issue)
- **08/11** Float Fly hosted by Yankee Flyers of CT, West Thompson Lake, North Grosvenordale, CT
- **08/17** Club Picnic and Swap Meet, Hosted by NCRCC, Ellington, CT
- **08/27** Warbirds over the Swamp. Hosted by east Coast Swamp Flyers, Northford, CT (see flyer in this issue)
- **08/31** Big Biplane Bash, hosted by CCRCC, Farmington, CT
- **09/05** Business meeting at the flying field, 7pm.
- **09/14** Warbirds over Ellington, hosted by NCRCC, Ellington, CT
- **9/14 – 9/15** Beverly Airshow 2024, hosted by Flight4CF (see website www.flight4cf.com) Beverly Regional Airport, Beverly, MA (see flyer in this issue)



"Yes, son, it's true. You're adopted."

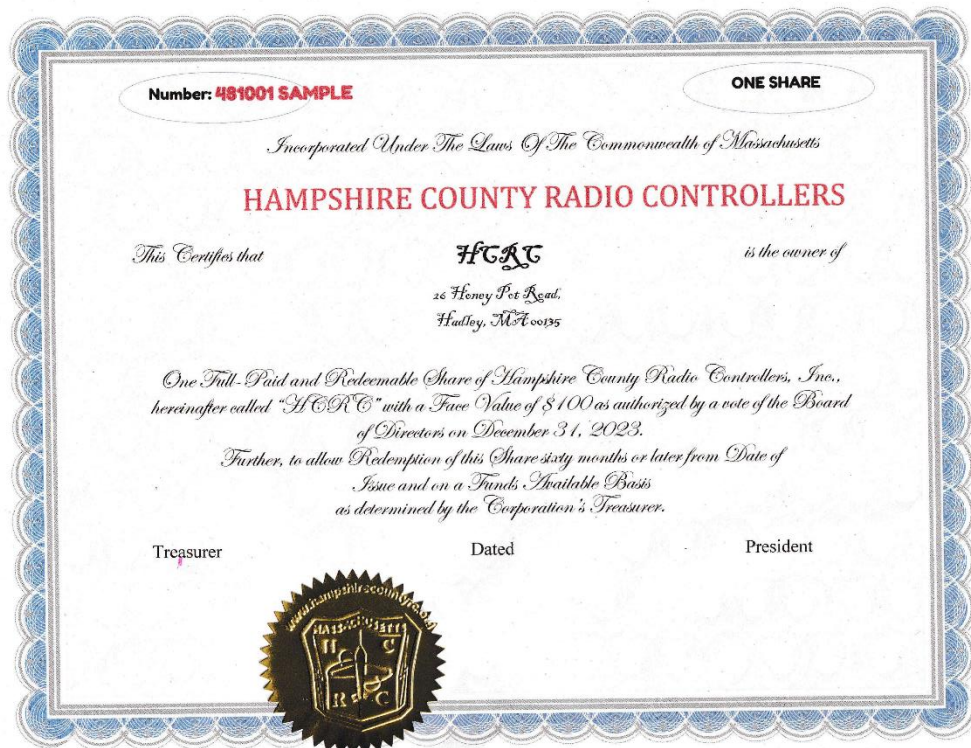
ATTENTION ALL HCRC CLUB MEMBERS AND SUPPORTERS
SHARES CERTIFICATE FUNDRAISER PROGRAM

Hello all,

Your club has now opened a shares certificate buying program to raise funds to purchase 5 acres of property next door to our old home on the opposite side of our 2.1 acre (70' strip) on Honey Pot Road. We only have two short years (01/01/2026) to raise the funds needed to purchase this property. These certificates are valued at \$100 per share. They will mature in 60 months to be able to be redeemed at face value on a funds available basis. Please purchase as many as you can reasonably afford. You can acquire these certificates one of two ways. Either bring cash or a check made out to HCRC to a business meeting and hand it to our Treasurer Gus Coelho or mail your check to Gus at 141 Holy Cross Circle, Ludlow, MA. 01056. Your certificate will be available by the next club business meeting or will be mailed out to you. All donations for the property purchase are being deposited into a dedicated bank account in the club's name and will be returned to the donor if the land purchase is unsuccessful. I thank you in advance for supporting this important funding program that will allow our club to continue well into the future.

Thank You,

Management



ATTENTION ALL HCRC CLUB MEMBERS AND SUPPORTERS

GOFUNDME FUNDRAISER PROGRAM

Hello all,

Your club has a secondary fundraising program in place for anyone that may wish to donate to our cause. It is through *GofundMe.com*. The link to our fundraiser page is below. This program is very important to supplement our in-house Shares Program.

SHARING: This GFM program will only be successful by sharing the link below with everyone you know and some that you don't.

Please email this link to any and all people in your phone contact list: friends, family, coworkers, everyone. These are *your* people and will be the ones most interested in helping you/us. You can also text it to anyone you don't have an email address for. Also, share this link with any business and organization. You may have to do this a few times over a period of time to get people/organizations that meant to donate but may have let it "slip through the cracks" the first time. Friends and/or family members may come up to you and hand you cash to donate on their behalf. You can transfer these funds into the fundraiser as an "anonymous" donator as well. Another easy way to share this link is on your personal social media page, if you have one. After you post it, leave yourself a reminder to re-share it to yourself every 2-4 weeks and it will go back to the top of your timeline for all your peeps to see.

Donations have already started to come in but this program will only be truly successful and meet our goal with all of our help to promote it. All donations for the property purchase are being deposited into a dedicated bank account in the club's name and will be returned to the donor if the land purchase is unsuccessful.

Thank You,
Management

<https://gofund.me/7b63150f>

Model Airplane Club Losing Flying Field



ATTENTION ALL CLUB MEMBERS



WE NEED YOU!

**VICE PRESIDENT
NEEDED**

We need someone to fill the vacated Vice President seat left by Dan Kapinos. Dan did a wonderful job for your club for several years but finally had to retire. We need someone to replace him. Club bylaws prevent any of the current sitting executive officers from holding more than one office at a time.

It is NOT that difficult of a position. Attend the monthly business meetings, organize the mowing crew and generally just be involved with your club.

THE SOLAR CHARGING STATION IN ITS NEW DIGGS



Thanks to the hard work of a few members our solar charging station is back on-line. Located just to the North of the large storage shed.



Some final wiring improvements were completed during the install. The security lock at the right hand end of the charging unit was upgraded so the lock could not be defeated anymore. The combination is the same as the gate. Check your email for the combination setting that was sent to you on 5/20. Always remember to relock the unit when you are finished charging for the day and you are the last on out.

.....AND A NEAR BRUSH WITH DEATH.....



FLYING FIELD OPERATING PROCESS

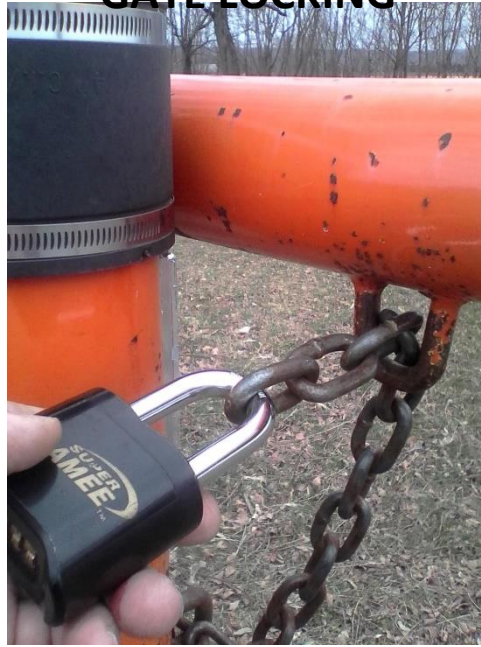


Thanks to the hard work of a few members our new relocated flying field is in very nice shape to fly off of for the season. I estimate the space to be approximately 300' x 75. Wayne Dawson has been coordinating the mowing crew which typically happens on Friday or Saturday mornings and has been in ready-to-fly condition.



When arriving, you are able to drive your car behind the large storage container and flight tables and unload your gear. Then continuing around the perimeter of the runway (when safe to do so) and parking your car on the South side of the pavilion. Do NOT drive across the runway! Stay as far East as possible. When you need to leave repeat the process. Bring your own chair and shade.

GATE LOCKING



As mentioned previously, now that the free firewood supply is gone, we are going back to locking the gate on a daily basis. The picture above shows the proper method of securing the gate. The Hannigans are using this gate to access their property as well. They have the combination to let themselves in. Also, be aware that they drive to the north end of their property by passing right behind the far side of our runway. Be extra cautious when you're flying and this happens. Last one out lock up if they are not there.

BEVERLY AIRSHOW 2024

SEPTEMBER 14TH & 15TH
More Information to come!

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6 Amazing live performers!

Remote Control Aircraft

Static Aircraft Military Aircraft

Sky Divers at 12pm

Food Trucks C-47 Airplane Rides

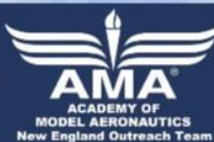
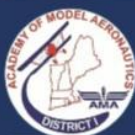
VIP Seating available

SCAN ME



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ENTERTAIN*EDUCATE*ENGAGE

Providing Public & Educational STE(A)M Outreach
Through Aeromodelling

www.amadistrict-1.org/outreach



The "South Shore R/C Club" Presents the 2024 Scale Fly-In
Open to all RC models, Military, Civilian, ARF and Aerobatic



Enjoy a day of sharing your scale airplane with fellow pilots in friendly open flying.
Awards for: "Best Military", "Best Civilian", "Most Realistic Flying", "Hank Ilitzsch Craftsmanship" award.

Two flight lines for continuous flying
No 3D

50/50 Raffle, water will be available
Open to all AMA members, Free Parking
CD: Ray Schmidt

Contact: schmidtsk@aol.com
PH: (781)-297-5109

Visit: www.ssrcc.org for details

Saturday August 10

Well-maintained grass runway, large clear flying area
Registration (\$15) opens @ 8:30 AM, Flying: 9:00AM to 4:00 PM
(If delayed to Sunday Flying starts @10:00 AM)
AMA Class "C" Sanctioned, AMA Safety Rules Apply
At the South Shore R/C Club Flying Field
GPS Address: 792 Conant Street, Bridgewater, MA 02324
Please come in off Rt. 18 into the main entrance
of the Bridgewater Correctional Facility. Then turn left at the guard
tower. Field is down to the right.

EDF and the mysterious 'Thrust Tube'

From <https://www.rcpowers.com/post/an-edf-thrust-tube-tutorial-10018633>

About the EDF:

Let's talk a little about the EDF (Electric Ducted Fan) itself. An EDF uses a higher KV motor, this means it does its work at a higher RPM. It takes longer for the motor to wind up, so it has a slower acceleration. The plane has to be built around the EDF, more so than the Prop motor combo. An EDF system is also harder to set up and it costs more. In front of the EDF, you need an intake ring and a sufficient supply of air. Behind it, you need a thrust tube that is tuned to your needs.

Fans with a higher number of blades:

- They have more power
- Are better suited to doing stunts
- Due to the pitch of the blades, they are a bit slower.
- They comparatively use a lower KV motor (the 2700 to 1000 KV range)
- The amp draw is much higher
- They use a more powerful motor
- The 10 and 12 blade ones sound like a jet turbine



A word on efficiency:

When compared to a Prop motor combo, the EDF is faster but generally less efficient. It is designed to do a specific RPM range very well. At a fast cruising speed, in a straight line or a slow turn, an EDF is more efficient; everywhere else, it's not. The EDF seems to be less efficient than a prop because most of us are stunt pilots, an EDF is designed more for speed. EDFs have sluggish acceleration and cannot maintain momentum like a prop-motor system of the same amperage.

Why do I need a Thrust tube?

Because it's a ducted fan, controlling the air going into it and out of it are both important. An EDF is made to install in a plane, not on it. The ducted fan blade is designed toward efficiently moving the air, not wasting energy focusing the air as a prop does. With the thrust tube containing and directing the thrust, and the fan efficiently moving the air; you have a very fast combination. The EDF has greater than 20% more power with the thrust organized and directed by the tube. Because of the Thrust Tube's diameter reduction at the exit, the air exits at a higher velocity than it entered the system. If the thrust is organized and directed, the air velocity increases because you are funneling it through a smaller, tighter thrust path. Unorganized and undirected thrust moves slower because it's the same amount of air moving through a much larger, looser thrust path. A thrust tube will make an EDF look sound and perform a lot more like jet engine.

Aerodynamics:

The area between the back edge of the duct, and the thrust's airflow has very poor aerodynamics. Due to the low pressure area the duct's trail edge creates, it has a destabilizing effect on the thrust. A thrust tube not only improves the aerodynamics of the thrust's airflow, it improves the aerodynamics of the whole Electronic Ducted Fan System. Any sharp edges like the ones on the trailing edge of the duct, degrades the EDF's performance. The trailing edge of a thrust tube is thin and aerodynamic. This makes for a much smoother thrust exit.

Thrust tube length

There are three things to look at. The fan causes a swirling motion in the air behind it. The thrust tube should be long enough to get past this. The buffer the tube's back pressure creates helps calm the swirling motion faster.

If the tube is too short and the angle of the graduation on the thrust tube is too steep, the air sliding down the inside wall is committed to that direction, this causes a fight at the exit of the thrust tube. We need a smooth flow, not a fight.

The Thrust tube exit needs to be far enough away from the duct to where the thrust airflow can have a smooth aerodynamic exit.

Whether the thrust is a spray, or a well formed column of air is important. The straighter the air exits the tube, the fewer losses you will see. A reasonably long tube with some graduation is the best. I have heard the best tube length is about 4 times the diameter of the fan; for a 70mm EDF, it's around 10 to 12 inches. If you are confined by space and you must use a short tube, that's much better than no thrust tube at all.

The exit diameter is adjustable

A thrust tube is used to organize and focus an EDF's thrust. It can also control the density of the air escaping out the back of the ducted fan jet. By changing the diameter of the exit on a ducted fan jet, a couple things that can happen.

By decreasing the exhaust exit diameter the airspeed rushing out will increase. This may also increase the maximum speed of your model, the heat and the load on the motor, and of course the amp draw. If you want a faster top speed, you will need a smaller exhaust diameter.

With a large exhaust exit diameter, additional power may be gained. The motor generally does not work as hard so it pulls fewer amps. If you want to do a lot of stunts, this type of tube has more acceleration, and the power system will rarely need any heat management. If you want better vertical performance, you will need a larger exit diameter.

These two variables are tradeoffs. It is a balance between thrust and speed that must be achieved according to your goals. Increasing exhaust exit speeds will decrease overall thrust and vice versa. The EDF's Thrust Tube needs between around 5 to 20% diameter reduction at its exit. The air should exit the thrust tube at a higher velocity than it entered the system. If you reduce the tube's exit area by 20%, you will have 20% higher air velocity at the system exit. It actually will be a little less than that because of back pressure and friction. In a real world application, F1 tested a 70mm ducted fan. On this system, He proved the thrust tube exit size should be between 59mm to 62mm for the best performance. That is a 5% to 16% exit size reduction. At 59mm (16%), it will give you the best speed, and at 62mm (5%), it will give the most power. With exit sizes smaller than 58mm, you will have a very little thrust velocity speed increase, but the system will have a massive power loss. With exit sizes larger than 62mm, the system will have less power and speed.

Installation

Installing the intake ring and the thrust tube correctly will improve the EDF's performance. The intake ring should be the correct size and a tight fit. At the beginning of the thrust tube, you cannot have an expansion area between the EDF and the tube. The EDF's duct's diameter needs the same as the beginning diameter of the thrust tube. You want a smooth airflow between the two. The fit between the intake ring and the EDF, and the thrust tube and the EDF, should all be airtight.

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