



# Fort Worth Thunderbirds Radio Control Association Inc. **The Pilot's Log**



## Issue 6102 - February 2023

**Next club meeting: February 27th, 7 PM, Location CERA, 3300 Bryant Irvin Road**

### Presidents Corner: by *James Meadows*

Hello Thunderbirds,

Wow what a February we are having. From summertime temps to ice in four-days it seems we have hit all the extremes. This resulted in cancellation of our rescheduled Jan meeting putting us just a little behind in getting our event schedule set up. So, if you have an event that you are hosting or want to host an event please come prepared to claim, negotiate etc, for the date of the event you want at the February club meeting. The meeting will be at the CERA Center off of Bryant Irving Rd. at 7 pm. Speaking of events! It's SAE event time at Thunderbird Field! This event will happen in April, and we need all hands on deck to make this successful. Sam Corlett, will be reaching out to you folks or accepting your offer to help out on the SAE event. We also are looking for a Contest Director (CD) to host the Warbird over Benbrook, an event held in May each year.

If being a CD doesn't appeal to you, then I might suggest you participate in a special committee that will be formed near term. This Committee will look at ways to display our AMA cards, while out at the field. More information will be provided at the February meeting on the scope of this committee.

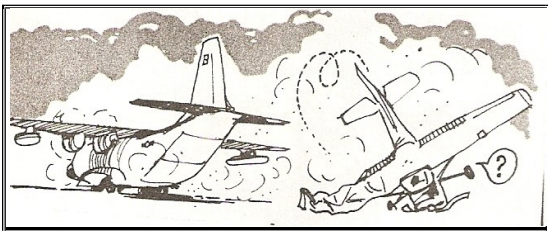
Everyone can agree that things are getting more expensive, to both purchase and maintain once you get them. I joined this club in 2004, and a family membership was \$125.00 and a single membership was \$100.00 a year. Here we are in 2023 and membership rates are the same. While we have maintained the same rate, the cost of doing business has increased, and the club needs to have a discussion regarding the possibility of raising membership dues. This will be a discussion item for the February meeting and a future vote later in the year. Any rate changes would be for the 2024 Membership year.

Electricity in the pit areas is a great convenience to all types of flyers. You can charge electric flight batteries, Tx batteries, perhaps even plug in a fan during the hot summer months. It's there to support flight activities and provide some comfort as members or guests enjoy our field. It is not intended to be a filling station for full size electric vehicles, Please refrain from charging any full size vehicles from the field electrical outlets!

I Hope to see you at the field for some great flying and at the next meeting for some good discussions.

Fly Safe

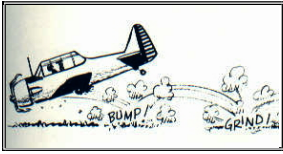
James Meadows



Vice Presidents Corner: *by Rob Lowe*

No report this month.

Rob



Secretaries Corner: *by Mike Schroeder*

No minutes this month. January meeting cancelled due to bad weather.

From the Treasury: *By Chris Berardi*

**The Case for a Dues Increase**

Unless you are living remotely you can't have failed to notice that things are more expensive today. A lot of attention has been paid to inflation and its affect on our wallets this past year. However, inflationary costs have actually taken a bite out of our purchasing power for longer than the newsworthy sound bites you've been seeing on the telly.

Of course, it's newsworthy now because inflationary pain serves the dual purpose of inflaming opinions and playing political theater. But step back into daily living and staples such as gasoline, home prices, food prices, and vehicle prices have been on the rise for a decade.

And so it is with everything we have to pay for as an organization. The most obvious and challenging bill we have is our lease. The board did a magnificent job a year ago and negotiated a 20 year lease. This was crucial because it has allowed us to define the budget for our largest fixed cost. Furthermore, our relationship with the Corps of Engineers, carefully fostered for decades, has rewarded us with the ability to pay for this lease on an annual basis rather than the full amount at the beginning of the lease as was done previously. Obviously, our new rate is higher than what we've paid in the past 20 years or more - a fact that all clubs on CoE property have had to contend with. While I won't go into specific numbers in this public forum, we will be spending some time reviewing the data at forthcoming club meetings.

Another example of how our costs have risen is our very necessary portable toilet. When we first opened our "new" flying site back in 2012, our toilet cost just over \$100 per month. We now pay right at \$290 per month. Think of it this way, the toilet alone takes the dues from three paid up members each month; or, 36 member's dues a year. Last year I obtained quotes from three other local companies to compare with the national company who currently services us. I was told that they "could not touch" the low price we were paying. The only possible cost saving we could make would be to rent a regular portable toilet versus the ADA version we currently have, and that's not a substitution that some of our members would be willing to make.

And there are many more costs that have been subject to natural and inflationary growth. Most of these are related to paying our insurance, purchasing and maintaining our equipment, licenses, gasoline, events and so forth. If you are a long time member then you'll come to realize that our dues have not risen in 15 or more years - back when we were at our old location with the sparsest of amenities and certainly no toilet other than the nasty ones that the public abused.

It is for these reasons, handily quantifiable, that indicate the need for a revision in our dues amount. While this is not something any of us want to really consider we cannot get around the fact that maintaining the facility and providing opportunities for personal growth in and around our hobby, necessitate at least an analysis of the situation.

While we investigate what the club requires to maintain the financial status quo, there arises an opportunity to alter the membership options available. Here's an example for you to ruminate upon: If you are a club member and participate in

auxiliary activities that support the general maintenance of the club, then perhaps your dues would reflect the contribution you make. If you just come out and fly occasionally but your contributions are fewer, then the dues would reflect that fact: I would term this a “tiered” membership dues structure whereby your dues reflect the support and volunteering as a partial payment reward. This is done at other clubs, and other clubs also have initiation fees that the Thunderbirds have never had.

Not that I think we need initiation fees, I don't, but if you are a regular visitor to the flying field and you only make your dues current once every two, three or four years (and yes, we have regular members who do this), then perhaps there is justification for a reinstatement of membership. Would this not encourage regular and timely renewals? It is hard to say but I thought it worth bringing up.

In actual fact, I think the real justification for a tiered membership is more about encouraging volunteerism for the routine maintenance related activities. The most intensive of which is clearly maintaining the flying site and all the equipment it takes to make it beautiful. In the past, members have more or less dedicated themselves to hauling equipment in for service, trailering a tractor to the field and back for heavy brushwork, building shelves, erecting shelters and so forth. We now need to find replacements and our strategy must change to fit the schedules of members who may not be retired. I mentioned this in an earlier newsletter.

Ultimately, it is up to us, the membership, to determine the prudent course of action: If we need to make this change, then by how much and when? Fortunately, we can come together at our club meetings for formal decisions and informally at the field. As always, every member has the opportunity for input. As one, we can make the motion and finalize the decision.

So there you have it in a nutshell, a very brief rationalization of why we need to come together on this topic. I'll put some numbers together for the club meeting and we can then choose whether to deliberate on this further.

### **2023 Christmas Party, or Not**

Each year about this time I am already making arrangements for the coming Christmas Party. Yes, it is a little hard to be thinking about it so early in the year, but it has always been the only way to reserve our location ahead of the crowd. Many of you may have noticed that the Fort Worth Botanic Garden is now under private management. The city still runs the gardens themselves but the buildings and activities are under the control of the “Botanical Research Institute of Texas” or BRI.

BRI is an organization that has more of a profit motive than the city had. For that reason the costs have more than doubled while service has actually dropped. Furthermore, there is now a denser schedule of events hosted at the Botanic Gardens. This past Christmas we had the International Festival of Lights which meant essentially zero parking at the main building and an annoying trailer ride from remote parking.

To cap it off, the staff were most incommunicable, unreachable and generally unhelpful as we approached our showtime. The room our party was held in was not the cleanest; some of you may recall the fruit flies that at times appeared to be as thick as a flock of starlings. The stress of that was unpleasant enough that I was threatened at loosing my generally sanguine demeanor.

In retelling of the frustration amongst several members, we hit upon an idea that is a departure from a Thunderbird tradition. What if we didn't have a Christmas Party?

Apart from the cost and the frustration, the Christmas Party has been attended by fewer members over the years. From a high of 120 members back in the early 2000s to around 65 in 2019 through 2022.

What if we refocused our energy and capital on an event similar to our 60th Anniversary on October 1st? That was a hugely popular event - really two events, one for the public (the air show) and one just for club members (In'N'Out Burger). An event such as this seems more appealing to the membership in general, and can benefit a greater portion of the club at less cost.

We will need to make the call sooner rather than later because BRI Texas is engaging more parties and events as commercial success is more critical to their bottom line than it was for the city. You can expect this to be an agenda item at the February Club Meeting at CERA on Bryant Irvin Road.

If you have an opinion on the status of the Christmas Party, be sure to let a board member in on your thinking so you can be represented if you can't make it to the meeting.

## **New Shelter**

Did you notice the new shelter at the north end of the parking lot? This is our new multi-purpose covered area that has been built "just-in-time" for the SAE Aero Design contest. We deliberately designed and placed it to support the club as a snack bar area during events, and as a drone/helicopter pit area when flying north-west of the runway.

Power receptacles and lighting are being added shortly sufficient to supply our cooking and charging needs. It's a good looking structure too built from a kit being sold by Mueller Buildings.

A team of members spent a frosty morning and chilly day erecting it. Starting at 8am and wrapping up 95% complete at 5pm the same day on January, 25<sup>th</sup>. It was a pocket-warmer day, but our intrepid members did a stand-out job and had a great time doing it too.

Below is a checklist of who built the shelter: When you see them, say hello and thanks for the awesome job!

- Bill Lake
- Chris Berardi
- Johnny Hunt
- Ken Knotts
- Mike Schroeder
- Neil Poort
- Pete Lucas
- Sam Corlett
- Wayne Lemkelde

## ***Membership Update***

I'm sure many of you, like me, enjoy learning how our membership ebbs and flows. I've been tracking membership as the treasurer since 2015 and I think that 2023 has seen the most active membership renewal in all the years since. There doesn't seem to be any particular reason though it could simply be that the end of the Public Health Emergency, at least in the minds of the public, has freed people of their concerns about infection. The fact that the termination of the PHE won't actually happen until May 11<sup>th</sup> doesn't seem to be a factor.

What really surprised me was the large number of renewals in early December and January. This is extremely beneficial for the club as renewals are key to understanding the scope of events hosted during the year. Because many events take a while to plan, knowing our financial boundaries is a key component in what we are able to offer the membership in terms of food, drink, maintenance and so forth.

Thank you all for your most welcome and essential support of your club. For those of you that are hanging back on your renewal, wait no longer! We have many activities coming and probably some new ones. I'm sure that elsewhere in the newsletter there is a mention of the upcoming SAE Aero Design contest. This is a fun event to support and to attend otherwise. Mark the dates: April 14, 15 and 16. Please contact Sam Corlett if you would like to volunteer.

Here is our latest membership count as of 02/21/2023.

<b>Membership Type</b>	<b>Count</b>
Individual	117
Family	9
Associate	11
Life	16
Service & Gift	0
<b>TOTAL</b>	<b>153</b>

That's about it for this month. Check your mail for news on the SAE Aero Design contest and more!

**Chris**



**Safety Officer submission: by *Sam Corlett***

Howdy folks. We just finished up a beautiful weekend of flying. I hope all have stayed safe and you have had a chance to get out and enjoy this beautiful weather.

It's come to my notice that we have several more possible emergency room locations than we listed in the last newsletter. With the advent of the new smaller health facilities, you have more options. The addition of the Chisholm Trail Turnpike has also made getting to locations such as Harris Southwest much quicker. So I encourage you to spend some time looking at Google maps and see what possible emergency care facilities might be available. I hope you never have to use them!

**Sam**



### **Helicopter / Food Court Cover**

The Thunderbirds recently installed a long-awaited cover for the helicopter and quad copter pilots. A great team of guys volunteered their personal time to get the project assembled in a couple of days. We had a planning meeting the week before install to lay out the cover materials and strategize the work plans. The day of install started off great as Wayne Lemkelde made breakfast tacos and coffee for the crew of volunteers. We worked pretty much non-stop right up to sunset and were able to finish most of the support structure the first day. Hard work helped to keep the cold weather somewhat at bay.

The parking barricade was contracted out and built the second day. The Thunderbird volunteers reappeared on the third day to drill holes into the concrete in order to bolt down the barricades. The next step in the process will be to order work benches and install electricity.



The covered area will be also used as a food court preparation and serving area during Thunderbird sponsored events at the field. The first planned food court event will be for SAE coming up in April.

There were a few tired and very sore bodies after everyone had their fair share of time climbing up and down the ladders, lifting and holding materials above their heads, cutting steel, working on roofing, welding support structures, drilling concrete and installing retaining bolts. But, after all was said and done, the Thunderbird volunteers once again pulled through and added another asset to the extraordinary facilities known as thunderbird Field.

Many thanks to Mike Schroeder for the planning and expertise managing the project, Neil Porte for his welding expertise, Sam Corlette and Pete Lucas for skilled manufacturing experience and labor, Johnny Hunt, Bill Lake, Ken Knotts, Chris Berardi for unflinching slave labor, and Wayne Lemkelde for his labors and contribution of feeding the troops.

Thanks for all the help







**WOW! Look at that! It's a gaggle of rare T-BIRDASAURSE'S thought to be extinct, but, NOT. Well Done to all.**

**FRIA, Remote ID and the FRIA Application Process**

**February 2, 2023, AMA staff:**

As most know, compliance with the Remote ID rule will be required beginning in September 2023. In anticipation of the requirement, AMA has begun requesting FAA-Recognized Identification Areas (FRIA) on behalf of our chartered clubs. We ask that those who have submitted their club's FRIA questionnaire to AMA to please be patient. This process will take many months to complete. After AMA has submitted your club's questionnaire for FAA review, the applicant will be notified of submission. Please keep in mind that the FAA will not begin processing these applications until summer 2023, so it might be some time before you are notified of your FRIA approval or denial.

**Our club has submitted the necessary paperwork requesting our flying site be considered as a FAA Recognized Identification Area (FRIA).**

For those not flying at a FRIA site, you will need to satisfy the Remote ID requirement by flying an aircraft with built-in Standard Remote ID, or by adding a Broadcast Module to your aircraft. A current list of FAA-compliant aircraft and broadcast modules follow:

**Current Remote ID-approved drone models are:**

- Autel Evo Lite+ MDXM2
- Autel Evo Lite MDXM
- DJI Matrice 300 RTK
- DJI Mavic 3 Thermal
- DJI Mavic 3 Enterprise
- Sony ARS-S1
- DJI Matrice 30 Thermal
- DJI Matrice 30
- DJI Mavic 3 Cine
- DJI Mavic 3
- DJI Avata
- DJI Air 2S
- DJI Mini 3 Pro
- Wingtra WingtraOne Gen II
- Microdrones md4-3000
- Microdrones md4-1000

**The FAA has also approved two broadcast modules for Remote ID:**

- Dronetag Mini
- BlueMark db100

Please keep in mind that the aforementioned list represents the aircraft and broadcast modules that the FAA has approved to have met the remote ID standard so far. Not all the aircraft and broadcast modules on the list are available for sale at this time. AMA will be sure to update our members when more add-on broadcast modules become more widely available. AMA has compiled a list of Frequently Asked Questions to assist in complying with the upcoming Remote ID Rule:

**Q: What types of UAS/model aircraft will require remote identification?**

**A: Any UAS manufactured or home-built that requires FAA registration (weighs over 0.55lbs) that will be operating in the NAS. UAS may meet the remote identification requirements by flying at FRIA sites.**

**Q: When will hobbyists need to comply with Remote ID requirements?**

**A: Although you might notice new Remote ID products on the shelves and FAA- Recognized Identification Areas (FRIA) be established, operators are not required to comply until September 16, 2023. During this time, AMA will continue to shape the implementation of the rule for the hobby.**

**Q: What is an FRIA?**

**A: An FRIA is where persons can operate visual-line-of-sight UAS without Remote ID. The FAA will look to community-based organizations, such as AMA, to establish these locations.**

**Q: Who can apply for a flying site to be an FRIA?**

**A: Those eligible to request establishment of FRIAs include educational institutions and community-based organizations recognized by the Administrator.**

**Q: How do I apply for my club's flying site to be a FRIA?**

**A: AMA has provided a FRIA questionnaire link to all club officers; this link will allow you to begin the FRIA application process. If your club has not received this FRIA questionnaire link, please contact the AMA clubs department.**

**Q: Are FRIA sites required to be open to the general public?**

**A: No. Anyone operating at a FRIA must have permission of the land owner, property manager, or club to do so**



## LiPo Batteries



LiPo battery charging safety is very important. As my pictures show, this is what can happen if you charge them incorrectly or experience an unforeseen event. It is important to understand the basics of these batteries as well as the more complex aspects of them.

There are several ratings you hear when discussing LiPo batteries and proper LiPo Battery Charging. First, I will cover each of the ratings so you get a better understanding of each number, then I will discuss what this means when you go to use them. They are Voltage, Capacity, and discharge rate. After that, I will discuss how low you should discharge them and how LiPo battery charging is done safely afterwards.

### Voltage

Unlike many of the battery types of the past that were 1.2v per cell, LiPo batteries are 3.7 volts per cell. Depending on how many cells the battery has in series (or S), will give you the overall voltage. In order to produce higher voltages, the cells are put in series. To note, it is VERY important to follow these exact ratings when it comes to your RC plane. Using the wrong voltage on your plane can cause damage to many components and/or cause failure while flying which could end in a violent and sudden stop against the ground (aka crash).

- 3.7 volt battery = 1 cell x 3.7 volts (1S)
- 7.4 volt battery = 2 cells x 3.7 volts (2S)
- 11.1 volt battery = 3 cells x 3.7 volts (3S)
- 14.8 volt battery = 4 cells x 3.7 volts (4S)
- 18.5 volt battery = 5 cells x 3.7 volts (5S)
- 22.2 volt battery = 6 cells x 3.7 volts (6S)
- 29.6 volt battery = 8 cells x 3.7 volts (8S)
- 37.0 volt battery = 10 cells x 3.7 volts (10S)
- 44.4 volt battery = 12 cells x 3.7 volts (12S)

### Capacity

Capacity rating is the measure of how much power the battery can store. It is generally rated in mAh which stands for milliamp hours. This specifically refers to how much drain can be put onto the battery to drain it completely in one hour. For example – If I had a 1000 mAh battery and placed a 1000 milliamp (1 amp) load onto it, after 1 hour it would be completely drained. If I were to take that same battery and place a 10,000 milliamp (10 amps) load on it, it would only last 6

minutes. Unlike voltage, this number is flexible. The bigger the capacity, the longer the flight times. You are only restricted in weight and size of the battery of what will fit into your plane. Obviously, the higher the capacity, the bigger the battery thus the heavier it is. This rating also comes into play when figuring the LiPo battery charging amps. I will discuss this later.

## Discharge Rate



The discharge rate of a battery simply is how quickly you can discharge the battery safely. This is known as the “C” Rating. The math behind the number is quite simple once you understand it. If you are a beginner pilot that will not be flying aggressively, this number is not as important as if you were planning to fly highly aggressive, 3D maneuvers and maxing out your draw on your battery.

If you have a battery rated at 10C that means you can safely sustain a draw of 10 x the total capacity of the battery. Let’s use our 1000 mAh battery example again. A 10C battery that is rated 1000 mAh can safely sustain a  $1000 \text{ (mAh)} \times 10 \text{ (C)} = 10,000$  milliamp draw. In other words, this battery can handle a 10 amp sustained draw. If we wanted to see how long this battery would last with this sustained draw, we would take 10,000 milliamps and divide that by 60 minutes which equals 166 mAh per minute. Now, divide that into the packs capacity (1000 mAh) which equals out to 6.02 minutes.

Let’s try this with a different sized battery. Say we have a 15C 1300mAh battery. First, we take  $1300 \text{ (mAh)} \times 15 \text{ (C)} = 19500$  milliamps or 19.5 amps. This means that we can safely draw a sustained 19.5 amps from this battery. Now, let’s find out how long it will last if we were to draw 19.5 amps from it consistently.  $19500 \text{ milliamps} / 60 \text{ min} = 325 \text{ mAh per minute}$ .  $1300 \text{ mAh} / 325 \text{ per minute}$  equals out to 4 minutes. Now, this doesn’t mean that if you have a 1300 mAh, 15C battery that it will only last 4 minutes. It depends on what you are drawing off the battery, which depends on your components and how aggressive you fly including throttle management. Your motor is going to be drawing the most power generally. C rating is also discussed when talking about LiPo battery charging. I will discuss this later.

## Recommended Amount of Discharge

You will hear a lot of people tell you that you should never discharge your LiPo batteries below 80% of its capacity. Using our 1000 mAh battery as our example again, you should never drain more than 800 mAh. You can also determine this by how many volts your battery has after you have used it. You shouldn’t drain it below 3.75 volts per cell. In other words, a 4 cell battery should not be used below 15 volts ( $4 \times 3.75$ ). Now wait a second, you may say to yourself. If earlier you said batteries were rated at 3.7 volts per cell, why are you telling me now not to use it below 3.75 volts per cell? I was confused by this when I first got into this sport as well. You see, a fully charged 1 cell LiPo battery will be at 4.2 volts, 8.4 for 2 cell etc. The number 3.7 volts is in reference to its nominal state. Others say that you shouldn’t go below 75% of the batteries capacity, and this will in fact extend the life of your batteries, but I haven’t had a problem with 80% myself.

## LiPo Battery Charging

First off, to charge a LiPo battery, you MUST be using a charger designed for LiPo’s. Failure to do so WILL result in a minimum of ruining your battery and a possibility of fire and/or explosion of your battery which could cause serious harm and damage. I have personally witnessed someone accidentally catch a LiPo battery on fire. Proper LiPo battery charging is very important.

I recommend using a computerized charger to do all of your LiPo battery charging. That will help stop you before you charge your battery incorrectly. LiPo battery chargers use the constant current / constant voltage charging method (cc/cv). This means that a constant current is applied to the battery during the first part of the charge cycle. As the battery voltage nears the 100% charge voltage, the charger will automatically start reducing the charge current and then apply a constant voltage for the remaining phase of the charge cycle. The charger will stop charging when the 100% charge voltage of the battery pack equalizes with charger's constant voltage setting (4.2 volts per cell) at this time, the charge cycle is completed.

It is also important to choose the right charge current. It is recommended that you only charge your battery at 1C. In other words, if you have a 500mAh battery, you should charge it at .5 amps. A 1000 mAh battery, it is recommended that you charge it at 1 amp. A 2000 mAh would be charged at 2 amps. Now, I've seen batteries that claim you can charge them at 5C. I personally won't go over 1-2C, but once again, I recommend following your batteries manufacturer recommendations for all LiPo battery charging.

### Balancing During Charging

Another important factor while charging your LiPo batteries is balancing the cells so that they are each charged to the full 4.2 volts evenly between all cells. Without balancing, your 2 cell battery could end up being charged 4.0 volts in cell #1 and 4.4 volts in cell #2 (for example). This, of course, is bad and will ruin your battery. You will hear from 10 different people 10 different methods of when you should balance and when you shouldn't. I am going to give you my opinion on this. I don't want to ruin my batteries. They can be expensive and I feel it's worth the extra time to balance charge your batteries every single time. You have two options. Either you can charge directly through the balancing plug if your charger has this option, or you can charge through the ESC plug and connect the balancing plug to the balancing connector of your charger or an external balancing unit. I think the second option is the best, especially if you are charging your batteries at greater than 1C. If your charger doesn't have the balancing feature, you will need something like the [Astro Flight Blinky Lithium Battery Balancer: A123](#) which plugs directly into the JST-XH style balancing plug.



A great tool for testing Lipo batteries is a CellMatch LiPo 2-6S Balancer Meter w/LCD. It is a precision measurement tool that measures and displays individual cell voltages and remaining battery power. This tool also identifies voltage differences between cells and discharge-balances all cells. I have one and use it all the time.

### Different Balancing Plugs

There are 3 popular balancing plug types. The first is known as the TP or Thunder Power plug. It is commonly found on the higher end batteries such as Thunder Power, Flight Power, Outrage, Volts, etc.

The second, and probably the most common plug is the JST-XH. This is found on many model brand batteries including Align, E-Flite, E-Sky, Electrify, as well as many cheaper brands like Zippy, Turnigy, Mega Power, etc.

The third is the Hyperion (Polyquest) balancing plug. It is found on the Hyperion battery packs.

My advice on this is to buy your batteries with the same balancing plugs and make sure that your charger has this style balancing plug-in. If not, the simplest solution is to buy adapters for your specific types. You can solder your own and modify your plugs, but I don't suggest this for the beginner pilot. You can quickly fry your battery, your charger, yourself, and your house if you aren't careful.

**\*\*\*CAUTION\*\*\***

LiPo batteries have on occasion been known to catch on fire when charging or in use so adhere to all recommendations by your specific battery manufacturer. This post is meant to be a guide and speaks in general terms to give information and is not meant to override the manufacturers recommended uses. LiPo battery charging can be dangerous, you should never leave a LiPo battery charging unattended (or any other battery for that matter).

## 2023 CALENDAR

<u>DATE</u>	<u>EVENT</u>	<u>POINT OF CONTACT</u>
April 14-16	SAE Contest	Tom Blakeny/Sam Corlett
May	Warbirds Over Benbrook	
May 20	SPA Contest	Ken Knots/Chris Berardi
July 4 <sup>th</sup>	Club Picnic	Club Officers
August 5	Float Fly	Mel Wells/Woody Lake

[www.fwthunderbirds.org](http://www.fwthunderbirds.org)

POSITION	BOARD MEMBER	EMAIL
President	James Meadows	president@fwthunderbirds.org
Vice President	Rob Lowe	vicepresident@fwthunderbirds.org
Secretary	Mike Schroeder	secretary@fwthunderbirds.org
Treasurer	Chris Berardi	treasurer@fwthunderbirds.org
Safety Officer	Sam Corlett	safetyofficer@fwthunderbirds.org



**Pres:** James Meadows    **VP:** Rob Lowe    **Sec:** Mike Schroeder    **Safety:** Sam Corlett    **Treas:** Chris Berardi



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### Flying Field Rules

← SPREAD SPECTRUM →																																							
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	00	01	02	03	04	05	06	07	08	09					
36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	53.0	53.1	53.2	53.3	53.4	53.5	53.6	53.7	53.8	53.9					

CURRENT AMA CARDS ONLY. NO OTHER CARD IS ACCEPTABLE.

THIS FIELD IS LEASED BY, MAINTAINED BY, AND ITS CONSTRUCTION FUNDING WAS SECURED BY  
**THE FORT WORTH THUNDERBIRDS RADIO CONTROL ASSOCIATION**  
 ALL AMA, CORPS OF ENGINEERS AND THE FOLLOWING RULES APPLY TO EVERYONE FLYING HERE.

1. Neither the Thunderbirds nor the Corps of Engineers is responsible for accident or injury.
2. Place your AMA card in the proper slot above before turning transmitter on.
3. All engines must have effective mufflers.
5. Fly from the station nearest the downwind end of the runway. In case of a crosswind the first pilot to fly will select the station.
6. Aircraft must follow the takeoff and landing pattern in effect.
7. Landing aircraft have the right-of-way over aircraft taking off.
8. Running aircraft shall not be left unattended.
9. No more than 5 pilots shall fly in each designated zone at one time.
10. LMA rules are posted in the bulletin board

**Academy of Model Aeronautics  
National Model Aircraft Safety Code**

Effective January 1, 2018

**A model aircraft is a non-human-carrying device capable of sustained flight within visual line of sight of the pilot or spotter(s). It may not exceed limitations of this code and is intended exclusively for sport, recreation, education and/or competition. All model flights must be conducted in accordance with this safety code and related AMA guidelines, any additional rules specific to the flying site, as well as all applicable laws and regulations.**

**As an AMA member I agree:**

- I will not fly a model aircraft in a careless or reckless manner.
- I will not interfere with and will yield the right of way to all human-carrying aircraft using AMA's *See and Avoid Guidance* and a spotter when appropriate.
- I will not operate any model aircraft while I am under the influence of alcohol or any drug that could adversely affect my ability to safely control the model.
- I will avoid flying directly over unprotected people, moving vehicles, and occupied structures.
- I will fly Free Flight (FF) and Control Line (CL) models in compliance with AMA's safety programming.
- I will maintain visual contact of an RC model aircraft without enhancement other than corrective lenses prescribed to me. When using an advanced flight system, such as an autopilot, or flying First-Person View (FPV), I will comply with AMA's Advanced Flight System programming.
- I will only fly models weighing more than 55 pounds, including fuel, if certified through AMA's Large Model Airplane Program.
- I will only fly a turbine-powered model aircraft in compliance with AMA's Gas Turbine Program.
- I will not fly a powered model outdoors closer than 25 feet to any individual, except for myself or my helper(s) located at the flightline, unless I am taking off and landing, or as otherwise provided in AMA's *Competition Regulation*.
- I will use an established safety line to separate all model aircraft operations from spectators and bystanders.

For a complete copy of AMA's Safety Handbook please visit:  
[www.modelaircraft.org/files/100.pdf](http://www.modelaircraft.org/files/100.pdf)

FW THUNDERBIRDS 2022 PROJECT LIST 2/13/2023 5:20 PM							
Project #	Proposed Project	Summary of Project	TYPE	EXPENSE	POC	Status	Notes
1	Update Freq Board	Update signage a use or Freq. board	self	\$100.00	BOARD	AWAITING ACTION	Waiting on word from AMA on Digital Wallet cards etc
2	Lost Aircraft Security	Provide a means to secure lost aircraft Found and returned	self	\$100.00	MEADOWS	researching need and solution	
3	Starting Stakes for big birds	Post for retaining Large A/C at starting area	self		Grant Schroeder		Awaiting information
4	Additional Storage AREA	Utilize Cargo container	self/contract	\$20,000.00	Chris	Hold	Would it require Lease mod?
5	Weather Station	complete with camera and Data port	Self	\$	Chris/Mike	Discussion	Allow member or guest to see and look at actual Field conditions
6	Pit Area Lighting	Lights in Additional Pit Areas	Self	\$200.00	Mike and Ken	COMPLETED	COMPLETED
7	Members Walkway	Personal engraved brick pathway from Pit area to Flagpole	Everyone		meadows	Discussion	Membership due details
8	Toilet	Real Toilet	combo	?	Meadows	Discussion	asked the Corp about co-op agreement
9	RUNWAY	Paint lines of runway/taiways	contract	2000	Mike	completed	Completed
10	Helicopter Pit Area	Pit area for Heli Area	self		Mike/SAM	completed	90%

## Humor





# Blast from the Past

## Heli-Heat Wave - April 2013

