Issue 713 December 2020 Club Charter

Flypaper 2020

Official Newsletter of
The Flying Electrons of Menomonee Falls

Celebrating 60 Years of Service to the Community & Counting!

President's Preflight

It's year-end and I'm thinking about what's next for 2021. I recently made a visit to the field and finished up storing the pit table and taking down the windsocks for storage.

It's still possible that we could have a couple of nice days for Winter flying, so there are a couple of pit tables left at the flight line for pilots that need one.

As far a events go for 2021, we'll have to wait and see. We are not planning an official New Years Chili Dump in 2021. Everything at this time remains on hold until we see how the year unfolds.

The board will meet to establish some tentative dates. You'll find these 2021 dates on the final page of your 2021 newsletter as always.

We're hearing about a vaccine that could help us mitigate the virus and I'm all for it. The health care front-line will be first on the list to receive the vaccine followed

(See **YEAR 2020** *on page 13*

Update Regarding the FAA Safety and Knowledge Test

On October 5, 2018, the FAA Reauthorization Act of 2018 was signed into law. It included a requirement for all recreational UAS users to pass a "Safety & Knowledge Test" in order to operate a recreational model aircraft within the National Airspace System (NAS).

The AMA has worked closely with the FAA to ensure that this upcoming test will meet the intent of Congress without placing an undue burden on our hobby. In the spring of 2019, AMA met with important stakeholders and the FAA, chairing a roundtable discussion to lay out the guidelines and administration of the safety and knowledge test. In September 2019, AMA sent a request for information to officially declare our interest in becoming a test administrator. The AMA is advocating that the test be available both online and in a written

(See **FAA UPDATE** *on page 17)*

Issue Highlights

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Club Meetings:
Second Sunday of Month
7:00pm
De Marini's Restaurant
N88 W15229 Main Street
Menomonee Falls, WI 53051

Flying Site:
N61 W17000 Kohler Lane
Menomonee Falls, WI
www.flyingelectrons.com

Incident Reporting System

Last year we implemented our Incident Reporting System.

As you continue to fly throughout the spring months as weather permits, be sure to indicate any signal interference you may experience so that we can begin tracking events for the 2020 flying season.

To reach the Incident Reporting System, simply click this link, **Incident Reporting System**

You can also register an incident by going to our website at **www.FlyingElectrons.com.** Select "Contacts" from the left side bar and then "Incident Report" from the dropdown.

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The Flypaper welcomes for consideration articles of interest, recommended video links, letters and questions you may have about the club, meetings, newsletter, and events. Please direct those communications via email to tjacobs421@att.net. We will respond to all inquiries.

Next Club Meeting

TBD

De Marini's Restaurant

N88 W15229 Main Street
Menomonee Falls, WI 53051

Bring a Friend and/or a Plane to Show & Tell

The Flying Electrons Reach 60 Years of Service and Counting!

2010 to 2020

In 2010, Chris Milbauer takes on the responsibilities of president and one of his first objectives is to form a committee to determine how the club can bring electricity to the airfield. He also introduces the "Open Forum" to regular club meetings allowing club members to bring up issues or simply ask questions of officers or other club members present.

The first "Makerspace" is scheduled in Milwaukee. This is an annual event that still goes on today and is a collection of scientists, engineers, artists and hobbyists, displaying their work and ideas to the public. I visited Makerspace in 2019 and was thoroughly entertained.

The Currie Park Dome becomes a popular hangout for Winter Pilots and WE Energies advises the club that the cost to run electricity to the field would cost $10,000 plus a monthly charge. The club decides to research the idea further.

This year, Joe Simon's scale Russian Missile Destroyer "Otlichnyy" is featured on the cover of "Fine Scale Modeler." Joe's wife, Amy Simon served as newsletter editor until she announces that a third little Simon was on the way. Amy did a great job and it was wonderful that she helped the club with her expertise in newsletter editing.

HISTORY *Continued next page)*

This is the Final Chapter However, it's not the End.

Early last year, Cliff Evans, as past president had received several banker's boxes of paperwork on the club. Once I had spent several months in the office as president, I inherited those boxes of material.

Neither Cliff nor I knew what was archived in those boxes until I starting digging through them. I had found a collection of written documents and a complete collection of newsletters dating back to 1960.

In addition, I had located the original copy of a historical account of the club that covered years 1960 through 1976.

Looking back, I sifted through more than 720 newsletter and hand-written documents to compile this updated historical account of the club.

I've learned a great deal about the club but more importantly about the dedicated volunteers that have made the club what it is today. It's been great trip and I hope we continue to add to it's legacy.

TJ

HISTORY *Continued*

The Electron's board begins to establish rules governing certification for heli pilots at the field.

In May of 2010, the club moves into the digital age by ruling that all newsletters will be sent electronically. At that time 31 members were still receiving the newsletter by mail. Today (year 2020) we have only four.

Color photos are first used in the 2010 newsletter due to the transition to digital, the club holds it's 7th Scale event, and members get on board the trailer with planes for the annual July 4th parade.

2011

Paul Daniel reclaims the presidency this year. The membership sits at 165 and the FAA begins to look at unmanned hobby aircraft as a threat to full scale pilot aviation. The club joins the AMA with a letter writing campaign against the proposed legislation.

Bob Scrip takes over as field manager from Sidney Smith, the club launches a new club website and discussion resumes on electrifying the airfield.

2012

Todd Davis is now president and makes plans to re-grade the airfield. The Village agrees to donate 40 yards of topsoil.

The board approves a bid from a local area contractor and sets a date of mid September to begin the leveling project, which will involve 140 plus yards of top soil. Total cost ends up to be in the range of $5,800.00.

The club considers a twilight fun fly in July and it is scheduled for Friday night August 24th. The event started at 6:00PM and 11 pilots show up with LED adorned aircraft. With over 60 spectators at the field initially, the crowd grew to a full parking lot and cars packed down the road.

No power generator was used and shelter lighting was powered totally off batteries and a 120 volt converter. Plans are to make this an annual event.

Field re-grading proceeds on schedule and the field is closed for two weeks while work is done and the new seed germinates. Pebble Creek and Sky Ranch offer their sites as alternative airspace to FE club members while the airfield is closed.

HISTORY *Continued next page*

HISTORY *Continued*

The weather remains very dry and the club loses 30% to 35% seed germination. The club hopes for rain.

2013

Mike Dorna is voted in as president, membership is at 154 and the club purchases a new gas grille to replace the old charcoal version.

The North/South runway is the only field area available for use, weather permitting while the main field continues to heal.

The club decides to table electrification of the field due to all the efforts put into the re-grading project.

The main field reopens for business in May of 2013 and the club participates in the Fall's Memorial Day Parade. The club holds it's second annual "Night Flying Fun Fly" on August 30th.

The club introduces a new event called "Fright Fest." Awards will be given for costumes, and kid's contest events.

2014

As the annual charity event air show started to get underway, a huge storm came through forcing pilots, aircraft and spectators into the shelter and their automobiles.

The storm lasted for nearly an hour, yet both the pilots and spectators in attendance toughed it out and returned for the delayed air show spectacular. The year's Charity Event resulted in record proceeds despite the bad weather intermission.

2015

Membership holds at about 160 and another round of public comment is requested by the AMA regarding FAA legislation to monitor UAS as new regulations are proposed.

Improvements are made at the field during field clean up day; a new counter top is added to the concession stand, crushed asphalt is laid in the shelter and the public address system cables are buried under ground for convenient set up and tear down.

The club elects to hold its Christmas Party at Davian's this year. This for adults is $15.00, $5.00 for kids 18 or under.

The board begins to look for other fund raising ideas instead of the Charity Event for 2016 mainly due to the lack of event support by club members. The same 12 club members had been handling the event for the last several years and wanted to take a break.

Tom Kunath decides to take charge and begins working with the Boy Scouts to come up with something totally different.

2016

Joe Burzinski takes on the presidency and commits the board to finding new ways to connect with the membership.

The FAA now requires UAS operators (model pilots) to register their aircraft. This initial signup period is free but will later cost $5.00/year.

This year the FAA also requires that clubs located within 5 miles of an airport establish a mutually agreeable operating procedure with the air traffic control (ATC) tower. The Electrons must now strike an agreement with both Timmerman and Capitol Airports.

Joe meets with both representatives of Timmerman and Capitol airports to get the ball rolling. Matt Byrne (the heli pilot that made an appearance at our 2019 AirFest) happened to be the point person at Capitol. Joe and Matt go way back, so that arrangement went smoothly.

The club would have to wait until the new airport manager takes

HISTORY *Continued next page*

HISTORY *Continued*

over at Timmerman before a decision can be made there.

In May, Tom Kunath announces that the Charity Event will run three days, Whew! Night flying Friday night, flying all day Saturday, night flying Saturday night and Sunday clean up. The boy scouts will camp at the field.

The board elects to survey the club about the providing electricity at the field.

Tim Kunath, 15 year old son of Tom Kunath, is nominated and wins the District VII, 2016 Youth Leadership Award, which recognizes substantial contributions to model aviation at the local level.

In April, a draft of an Operating Agreement between Timmerman and the Electrons is received for review. The club must continue to contact Timmerman daily using an automated messaging service to reach Timmerman each morning until the final agreement is signed.

Monday night training is put back in operation and 10 Instructors will rotate providing Monday evening services.

The club once again comes close to bringing electricity to the field. Discussions with the Village lead to the need to revise the club's lease agreement which could be problematic.

The Timmerman Airport Manager refused to sign the agreement. The Airport attorney indicated that Timmerman would accept a call in procedure from the club once every 6 months until a final agreement is officially signed.

Representatives of the club met with the Village to discuss new terms for our lease agreement. The Village indicated that electrifying the field looked like a step toward larger expansion of club activities, which the Village saw a slippery slope. The club members assured the Village that there would be no further expansion of activities.

The Village then also noted that a new lease would likely lead to an increase in field rent and alter terms of our lease agreement. (oops!)

In August, the big plans for the 3-day Charity Event fall through. Tom Kunath, the driver of the event has to back out and Joe Burzinski takes over. The weather refuses to cooperate and the event is held on Sunday due to rain. Despite the weather setback, the event was a success.

2017

The club begins the job of redesigning the website once again and comes close to completion in February.

Plans get underway to research what the Pebble Creek Flyers are using to provide charging power to their airfield. The idea of We Energies supplying power looks to have long term cost and Village implications.

After a thorough review, their system looked good and one the club could emulate.

They acquired a materials list from Pebble Creek and set out to build a similar system.

In April, the club launches their new website which will also accommodate mobile devices.

In May the club installed a new metal roof on the concession shed and a two-station solar charging system. The solar charging system was installed under Dan Franklin's leadership, finally bring power to the airfield.

FPV flying at the field becomes an issue this year where members, some for it, and some against it, start to voice opinions on Facebook. The board initially limits recreational FPV flying to those

HISTORY *Continued next page*

HISTORY *Continued*

carrying a "Part 107" license and this stirs controversy.

With growing FAA involvement, the board moves to prohibit FPV flying at the field to anyone not Part-107 certified.

In another controversial move, the board also finds it necessary to raise member dues by $25 this year and puts it to a membership vote. If it passes, the increase will become effective for the 2018 season.

2018

The club votes to accept the dues increase and Cliff Evans is sworn in as president.

Cliff introduces the "mini swap" at club meeting whereby members can bring items to sell or swap.

Combat flying had died off for several years but is once again revived when Ed Malec brings his Crash Test Hobbies "Assassin" to the May meeting. Several members begin to reconsider combat at the field.

The club this year introduces its "Model Aviation in Education" program. It's an aggressive effort to reach schools and institutions with the club's message that model aviation addresses science, technology, engineering and math (STEM.)

Ed Malec and Tom Jacobs lead the effort and approach schools with the program. Schools are reluctant to include outsiders in the classroom but a few acquiesce and presentations are made followed by an invitation for students to attend the Education Event at the field in early June.

Twenty-nine individuals sign up but poor weather cuts attendance to 16 students. Still considered a success, the club decides to make this an annual event.

The club elects to add a third charging station to the shelter.

The electric system seems to be getting a considerable amount of use.

In late July, Cliff Evans is called out of from retirement to manage some business for his previous employer. Tom Jacobs, vice president, takes over his duties as acting president.

Combat becomes very popular once again and the club recruits 16-plus pilots to invested in the activity. Sometimes, as many as 12 to 15 aircraft are in the air at one time. The activity begins with streamers attached as with conventional combat flying but pilots

HISTORY *Continued next page*

HISTORY *Continued*

quickly shed the streams and begin a more aggressive game better termed as "Roller Derby."

Pilots get into formation and then try to take each other out of the sky. This is not for the faint hearted. The aircraft used are foamy delta wings that are virtually indestructible.

Special guidelines are formulated as safety measures for flying pilots and spectators.

Model Airplane News picks up the story on Education Event and the club receives some national attention.

The "Tamarac Challenge," the club's annual pattern event receives an upgrade with the introduction of an electronic scoring system. Judges sit comfortably holding game controller type scoring devices and the data is sent back to the main system via Bluetooth technology. Scores are automatically tabulated and displayed. It's a really cool system!

The club introduces a new closed club event called

"Frankenplane." This is the brainchild of Ed Malec and challenges pilots with remnant aircraft components to compile a new aircraft from the parts. It's first year is not huge but it was a great deal of fun.

The club also announces a "Builder's Workshop" for the Spring of 2019. The effort is developed in conjunction with the Menomonee Falls Recreation Department and will run six weeks.

Tom Jacobs makes a plea for old unused 72 MHz radio systems from club members to support the program.

2019

In 2019 the membership is at 135, the newsletter gets a face lift and an Incident Reporting website is created. Prior to this data tracking site, many frequency interference events were talked about. Once the system was put in place, the interference events seemed to stop.

After several presentations to schools, the "Builder's Workshop" nets three enrolled students for the program. Although the club was looking to enroll at least six students, it decides to move for-

HISTORY *Continued next page*

HISTORY *Continued*

ward with three as a test program.

Over the spring months, Tom Jacobs starts to meet with PTO parents and finds that they are very receptive to our BWS offering.

Monthly member meetings once again include special presentations on building, aircraft history and other topics. Some of the meetings get quite long so these presentations are shortened to be more specific later.

The club adds the AMA's "Introductory Pilot (IP) Program" to its list of services to attract new members. Students interested in trying RC receive 60-days of AMA liability insurance over their training period. Once they complete their training, they join the club to continue flying.

The club places a huge Morgan Fuel order providing a 25% discount to members. Over 45 gallons are ordered.

In May, Mark Polzin spearheads an upgrade to the field's charging system adding a 4th station for hi-amperage users.

Following the completion of the "Builders Workshop (BWS)" the Education Event is held and six students attend to include two from the BWS.

Most student attendees stem from meetings with parent/ teacher organizers and it becomes clear that PTO members should be the target of our club message.

The FAA rules this year that the club is recognized as a community-based organization and falls outside Timmerman airspace and announces a knowledge test that modelers will need to pass to renew UAS certification.

Combat becomes so popular that special flying rules are established at the club along with scheduled flying times.

The board decides to move forward to allow FPV flying in designated areas of the airfield. A small committee is formed to establish field rules and a few members are certified as FPV Instructors. FPV for the balance of the year never seems to

HISTORY *Continued next page*

HISTORY *Continued*

take-off, yet a few members continue to dabble with the technology.

After several years of poor attendance for Monday training night, the club decides to go to an appointment-based training program using the IP program as a pivotal point of entry.

Students wishing to learn to fly must first sign up for the program and an Instructor is assigned. The Instructor trains them from student to solo pilot and then helps them join the club. During 2019, the plan becomes solidified and starts to show results in new member recruiting.

Kids and parents have the opportunity to have their picture taken in the cockpit and leave an email address to receive their photo. This list, along with others collected from school presentations and meetings with school administrators becomes the foundation for a student email recruiting program.

Another new event is added to the annual schedule called the "Build & Fly Challenge."

This new event invites members to construct a flying aircraft from Dollar Store foam board. The aircraft must maiden during the event and make one complete pass around the airfield, and a successful landing. Each pilot gets 3 attempts.

The first year sees 4 or 5 entries with an F-27 Jet taking first place.


Take the
"Build & Fly" Challenge
When: September 28th, 2019
Where: Flying Electrons Airfield
(10AM to 2PM)

The charity event, now known as AirFest is a huge success and includes a full size helicopter entrance, display and exit to a standing crowd of spectators. In addition, a special display and demonstration of a working military drone engines is presented to spectators.

In November, the club announces the "STEM Student Membership Academy." In an effort to bring youth into the club, this STEM program offers students 18 years of age and younger, a FREE Electrons club membership when they complete the IP Program and certify as solo pilots. The program plans to rollout for the 2020 flying season.

Using the newsletter as a marketing tool, the club continues to build a student recruiting email list and markets the club and its events monthly to students and parents.

2020

Tom Jacobs is officially elected as president and the club is preparing to celebrate its 60th anniversary.

HISTORY *Continued next page*

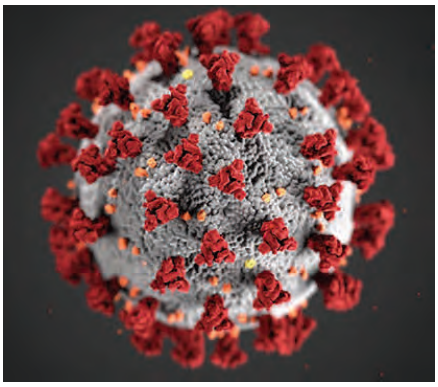
HISTORY *Continued*

In January and February Tom begins an effort to recruit students for the "Builder's Workshop" by meeting with Parent Teacher Organizations and School District personnel. By mid February, he has nine students enrolled. It appears that meeting with parents is the key to enlisting students in the club's programs.

The January meeting is cancelled due to a conflict with the Packer game play-off and the February meeting is cancelled due to bad weather.


Flypaper 2020
Official Newsletter of
The Flying Electrons of Menomonee Falls
President's Preflight
Welcome to 2020!
A Cool Way to Start the Flying Season.

Plans for the year as announced in the newsletter include establishing a weather station at the airfield, move the club roster to the web so members can maintain their own contact information, and create a club recruiting video.



The club holds its first and last meeting for year 2020 in early March. The COVID-19 Pandemic makes news later that month and the world and most everything comes to a complete stop.

The club's "Builder's Workshop" with nine students enrolled is cancelled, the clubs annual budget meeting is postponed, and club events are dubious.

The weekly "Dead Chicken" breakfast is put on hold pending outcome of the virus. Later it's learned that the owner of the restaurant where the weekly meetings were held is stricken with COVID and spends two weeks in the ICU.

Club members are encouraged to follow safety standards as outlined by the CDC but getting acclimated to this new way of living is tough.

The club surveys members to determine membership attitudes and concerns during the pandemic. The results are reviewed and the field remains open to flying as outdoor activities remain appropriate under the pressure of the pandemic. Because of this, the year is not a total loss.

Pilots at the field remain cautious and respect member social distancing of six feet or more. Hand sanitizers and disinfectants are provided at the shelter to help mitigate the problem.

HISTORY *Continued next page*

HISTORY *Continued*

Earlier, when Tom Jacobs took over the presidency, Cliff Evans, delivered to him several bankers boxes of paperwork he had been holding.

Tom Jacobs went through the boxes and discovered that they contained a gold mine of information about the club. Letters, event brochures and a rigid collection of nearly every newsletter that was ever written. The box also contained a detailed account of the club's history dating from 1960 to 1976; a really good start.

Tom decides to commemorate the club's 60th during the pandemic by providing an account of the club's history dating back to 1958 to the present. The file box held written communications between flyers who would later become the first members of the Flying Electrons.

Over the next several months of 2020 the club did hold an event

or two.

A limited "Electric Event" was held and participants adhered to the CDC guidelines. Later in the year, the Frankenplane and Builder's Challenge was held. All pilots were well aware of social distance guidelines and made

sure flying pilots were safe.

Due to the pandemic, some parents sought outdoor options for their kids over the summer months. This lead to a big increase in young IP students in 2020.

Both Ed Malec, Student Coordinator, and Tom Jacobs had to start taking on students later in the season. Two or three of those late students have already become members of the club. Several others are in line to resume training in the spring.

The club held its FrankenPlane and Builders Challenge Event because it knew participation would be minimal but exciting.

The club's communication program to students will keep them informed when spring training begins in 2021.

There's a huge fiasco surrounding the country's presidential election. A lot of divisiveness remains. It's not known if the country can heal, but a vaccine is on the way according to officials and a depressed stock market begins to rebound. This great news is on the lips of every American.

Whether or not the vaccine can conquer the virus or simply delay its inevitability is not known. Everyone hopes at the end of the year 2020 there is a light at the end of the tunnel.

This is where the history comes to an end, at least for now.

I hope that you've enjoyed reading through our club's history. It was quite a lot of work to sift through all the hardcopy documents and sorting out what seemed important from the fluff but I thoroughly enjoyed it and, I learned a great deal along the way.

TJ

Giant RC Pond Racer

Bob Pond commissioned the design with the idea of developing a modern aircraft that could compete with the vintage warbirds in the Unlimited Class at the Reno air races. Bob Pond was concerned that each year at the Reno Air Races, valuable and historic aircraft were being crashed and destroyed, not to mention many engines being damaged or wrecked beyond repair. The Pond Racer was hoped to be an alternative to vintage aircraft like the P-51 Mustang and the Hawker Sea Fury that would be as fast and spectacular in the air as the warbirds. The Pond Racer is a twin engine with incredible sound.

www.RC Pond Racer

Extra Large B2 Bomber With Turbine Engines

German engineering is big in the model aviation hobby. I don't know how many impressive aircraft one can see on YouTube that are of German origin but this exciting replication of the B2 Bomber is one of the best I've seen. Stretching is size over 14 feet and sporting two turbine engines, the aircraft is truly impressive.

www.RC B2 Bomber

(**YEAR 2020** *Continued from page 1)*

by the most vulnerable to the virus.

Many of the goals I had hoped for in 2020 were sideline because of our inability to physically collaborate. I'll revisit these once again in January.

One of those goals was to get our Club Roster onto the web so that members could update their own contact information. I have made some progress on that and I see this being accomplished sometime in the Spring.

Membership Renewals

We had 126 active members give or take a few on average in 2020. As of mid-December, only 45 members have renewed their membership with the club. This year, due to the pandemic we've reduced the membership fees by $10.00 for both residents and non-residents.

Please take advantage of this reduction and get your dues in before the **cut-off date of January 15th**. We won't be able to extend the offer beyond this closing date.

Overall, we're looking forward to a more productive year in 2021. I believe that the year will be transitional in a way, as the country becomes vaccinated, so we're planning NOT to drop our guard.

Despite the pandemic, I flew at the field more often this year with more planes than ever before.

I hope to see everyone out there in 2021.

Stay safe.

TJ

Getting Started in RC

"Winter Building" for Kids!

The bad thing about living in Wisconsin is that you can't fly model aircraft 3 or 4 months out of the year.

The great thing about living in Wisconsin, is that when Winter sets in, you have time to build up your hanger for the Spring.

Planning out what you want to build can sometimes be overwhelming. There are many possibilities. Winter building is a great and productive way to spend some of that indoor time as the snow flies.

For kids, it's a great past time too!

In this article, I'm going to talk about "Flite Test Store." It's a fun company that is into about everything you can think of aeronautically. It's also the first company, that I'm aware of, that has made RC aircraft construction simple and low cost for the average aviation student. And, it's a great place to start learning how to build RC model aircraft.

If you're not familiar with **Flite Test**; they are a young group of entrepreneurs that started a company around simple and economical foam core model construction. What's neat about this company is that they are all over the Web. They are now into just about everything that stirs the creative mind. In addition, they have a line of RC model aircraft that that have a wide range of appeal for the young aviator.

To start, you can check out their site at this link **Flite Test Stores**.

They have everything you need to get started building and flying. They also offer radio equipment and information about power sources, electronics and more.

The beauty of the Internet is that most all of their information is presented using videos making it easy to understand and enjoy.

I was made aware of Flite Test three years ago by Tom Kunath, a long time member of the Flying Electrons Club. At that time I was looking into how we could create a Builder's Workshops in the local area. His suggestion opened my eyes to a new avenue of model building.

Previously, I always used balsa, hardwood and carbon fiber. I was skeptical about the use of "Dollar Store" foam board as a main construction medium, but after building my first aircraft ... I was hooked!

Builder's Workshops

The Flying Electron's established a Builder's Workshop in cooperation with the Menomonee Falls Recreation Department in 2019 which was met with great suc-

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Test, can be used if you decide to start building general model aviation kits later. Building balsa kits is different however, knowledge of airfoils, where structures need to be reinforced, and the basic assembly requirements are the same.

cess. During the workshop, students build an RC aircraft called the "Simple Scout" from a Flite Test kit. The aircraft was a great first aircraft in RC. The Flying Electrons club members donated refurbished 72 MHz radio systems to the participating students so they could be "ready-to-fly" during the club's Model Aviation in Education Event in the Spring.

Participation was somewhat expensive because of a kit price of $179.00 per student, however, using Flite Test construction techniques, the Electrons club was able to reduce Workshop costs to under $99.00 by designing their own aircraft and using "Dollar Store" materials for construction.

Construction Techniques

Flite Test has developed construction techniques that are rather new to aero modeling, yet they are based in principles that are transferable.

So what do I mean by that? I mean to say that, what you learn about model building under Flite

Fun Winter Projects

Even if you're not ready to fully commit to RC with radio equipment, selecting and building one of these Flite Test aircraft is a rewarding experience. If you are willing, you can build an aircraft and fly it as an uncontrolled glider.

"Gliders" are fun to play around with. All you need to do is select an aircraft that is a good floater, build it, and then weight the front -end properly so the Center of Gravity (CG) is correct. Now, you can toss the aircraft as a glider. You can adjust the control surfaces to make it climb, turn, or fly in a stable consistent manner. If you choose to take this approach, please consider an aircraft of a small size (one of the minis.)

Kit Prices

The kits Flite Test sells are reasonably priced. They are all laser cut and include everything you need to construct the main air

A List of Tools You'll Need For Scratch Building

Building with foal board requires far fewer tools than more complicated balsa models and the tools used are all available that your local hardware or discount store.

Here's the list.

- *(1) Roll of blue painter's tape*
- *(1) Roll of Scotch tape*
- *(2) Matte knives*
- *(1) Glue gun and glue sticks*
- *(1) Roll of clear packing tape*
- *(1) 9 X 12 sheet of 1/8" thick craft plywood*
- *(1) Soft lead #2 pencil*
- *(1) 36" Metal ruler*
- *(1) Can of spray adhesive*
- *(3-4) Sheets of poster board*
- *(3-4) Sheets of Foam Board*
- *(2) 1/8" Wooden dowels or barbecue skewers*
- *(1) Package of #64 rubber bands or similar size*
- *(1) 9" x 2" x 3/4" approximate scrap of wood*
- *(1) Sheet of 150 grit sand paper*
- *(1) A Card Table or any 36" x 36" work surface protected with cardboard*
- *(1) Electric drill with assorted drill bits*
- *Small Phillips screw driver*

Most all aircraft featured in Flite Test's array can be built with these tools.

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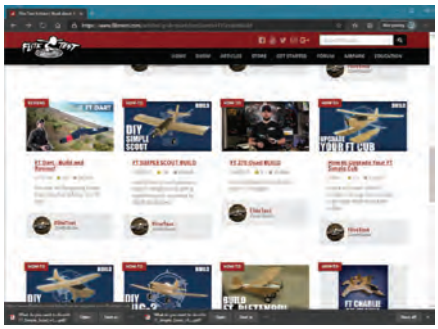


frame. The company also offers power kits. These include a recommended power source, servos, propellers, etc. If you want, you can also purchase the tools to build the aircraft which consist mainly of a glue gun, glue sticks, etc.

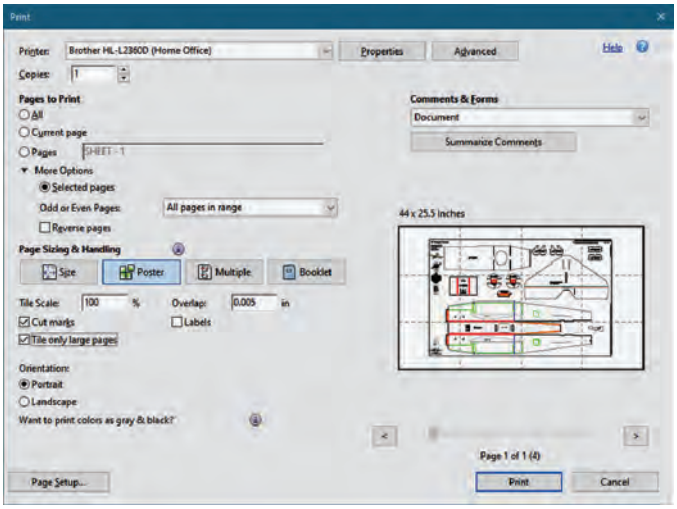
Flite Test Material

Flite Test offers a foam board in their kits that is covered with a water resistant coating. This paper covering and coating does make the foam board more durable and resistant to moisture but the coating also makes it harder for paint to adhere to the surface.

As an alternative, you can purchase foam board from the Dollar Store. I like this material because it accepts paint better than the Flite Test product.. One recommendation is to use flat or sating finish spray paint to decorate you model. This paint is not available in as many colors but it provides a much nicer surface than gloss finishes do.

Do it Yourself (DIY)

One of the great things about Flite Test, is that they also place their plans for all of their models out on their website so that students can build their own aircraft without having to purchase one of their kits. This is a little more work but I'm going to show you how to do it in this article.



Finding Aircraft Plans

Flite Test doesn't make it easy to find plans. Why? Because they would rather you buy the kit instead. So here is the link to the main "Plan Build" site area for Flite Test.

www.Flite Test Build Plans

If you click on the above link you'll find a wide range of plans that can be used to build model aircraft at home. If you dig deeper on their website, you'll find even more.

The first thing you need to do is select an aircraft. As an exercise, select the **FT Simple Scout** so you can follow along. Scroll down at the site to find this model.

Once you select the Simple Scout, you'll be redirected to the Simple Scout build instruction set. At the top of the page you should find the build video. The company does a great job of instructing young builders on how to build this aircraft.

Printing the Plans

To find the DIY Plans for the Simple Scout, one needs to scroll all the way down to the bottom of the page and locate the section covering plans. Here's what it looks like.

Here's the Link:: **FT Simple Scout**

Once you've done that, save the file in a safe place. Then copy it to make a back-up.

Printing Your PDF Plans

All Flite Test Plans are in PDF format. The typical builder is familiar at home with a letter sized printer. The plans require a much larger format because they span large aircraft components. So you need to print the PDF file using a **"tiled format"** on letter-sized paper, and then piece these sheets together to create the larger plan. Here's how to do that.

(See Trim Chart next page)

(**FAA UPDATE** *Continued from page 1)*

format at fixed locations, such as an AMA site, to ensure that all members are easily able to take the test.

The test will have approximately 25 multiple-choice questions about basic safety guidelines and recreational flying knowledge. If a member misses a question, he or she will be able to go back and reselect an answer until the response is correct. This way, the test is "fail-proof" and guarantees that every recreational user will be able to complete and pass the test.

It is important for everyone to understand that this test is designed to bring safety awareness to the airspace and not to exclude recreational users from operating in the NAS.

The AMA expects to have the test-taking process outlined by the end of 2020 or early 2021 as part of Advisory Circular 91-57C. In the meantime, AMA will continue to work with the FAA and keep its members updated on the process.

It's not clear if the FAA will finalize this test for distribution before the end of 2020 but it's highly unlikely, so it's important that Electron members get their FAA registration renewed NOW under the current framework to avoid complications later.

I'm confident that the FAA test will be a "no-brainer" for anyone that must take it. And thus far, that seems to be the way it's playing out.

TJ

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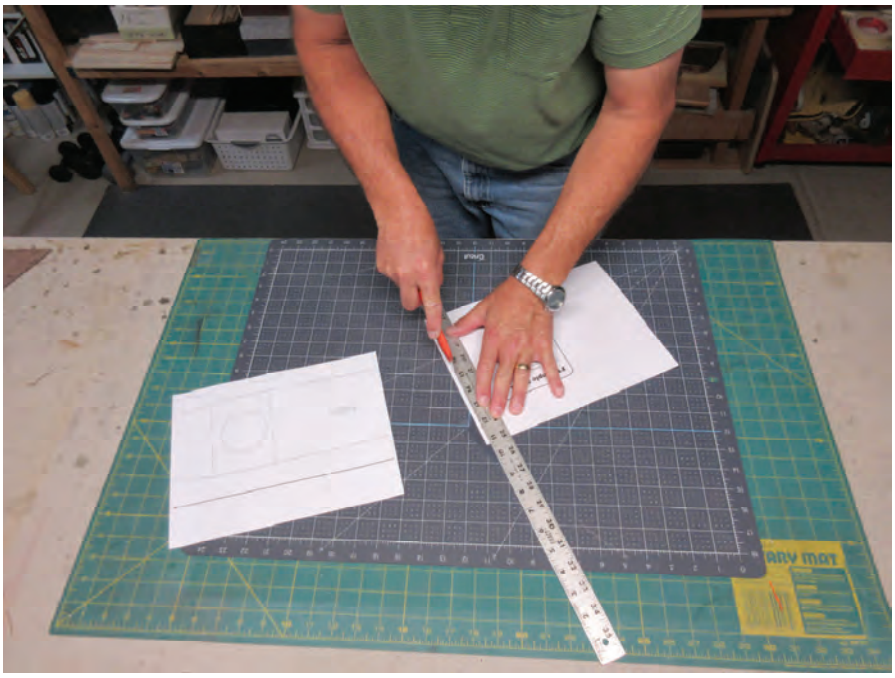

Tiling & Preparing the PDF Files

Open the PDF file and choose to print. The print settings I use are shown on the previous page. You may have to experiment a little to get the same setup but the general PC print options should allow you create a tiled printout of the PDF file.

When you print, you'll get the number of pages as shown in the print diagram above. You'll notice that the printer will leave a slight border around each page because it can't print off the edge of the paper. You'll need to tape these sheets back together accurately so you can cut the pattern.

<u>This is important, so follow along.</u>

Carefully slice off the right and bottom borders of each sheet that will be taped together.

Line your metal straight edge ruler along the right side so that it meets up with where the pattern line stops and slice that border off the sheet. Do the same for the bottom edge.

You'll only need to slice borders of two sides of each sheet and only on those that will attach another sheet as a continuation. When finished, pattern lines should bleed off the edge of the page on the right and bottom.

Once all required sheets are cut you can position them together

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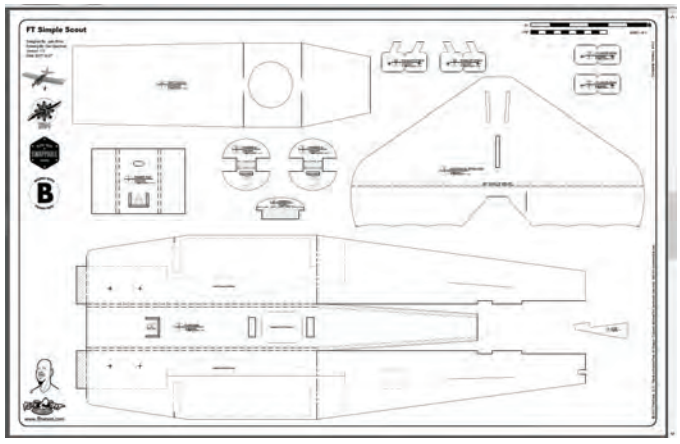
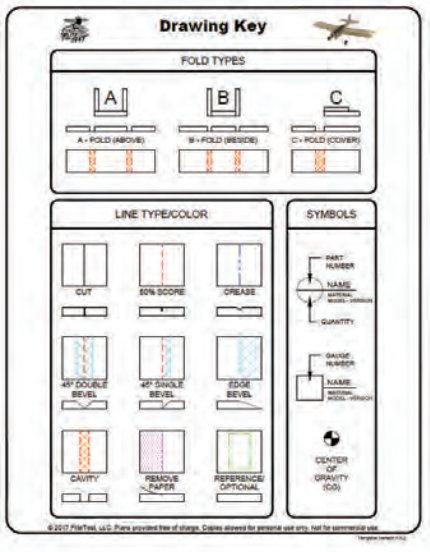


by aligning the pattern lines from one sheet to the next.

I use small one inch pieces of Scotch tape to tack the sheets together, and then I will tape the entire edge so the plans don't buckle when I start to handle them.

Creating Your Templates

A template is simply a poster board cutout of each part. With a pair if scissors, cut out each part leaving a 1/4" paper border around each pattern piece. We'll cut the part accurately after it's mounted to the poster board.



Most Dollar Store foam board and poster board is 20" x 30" in size. Your poster board will serve as your template substrate.

Arrange your separated printed plan pieces on the poster board surface trying to space them so you can get as many down as comfortably as possible. Once you've arranged as many parts as you can on one sheet, spray the back of each pattern piece, one at a time, with spray adhesive and secure them in place. Be sure to create an area with newspapers to catch overspray when applying adhesive to the back of the printed pieces.

Secure each piece to the poster board until the board is filled in with pattern parts. Using the same procedure, arrange the rest of the pieces on additional poster board as necessary until all are placed. Save the extra poster board you have for future projects.

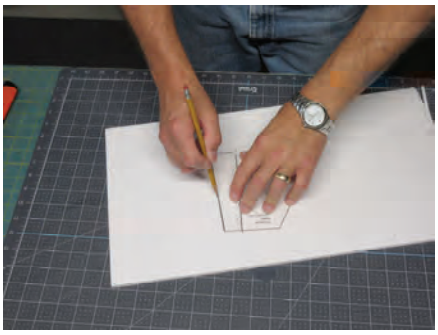
Cutting Your Templates

You should use a metal edge ruler to align to cut all template pieces. Try not to cut any pieces by hand without a metal straight edge, even those that may appear very small. This will help keep each part in true alignment when you start to build. The only exception to this rule applies to cutting out curves and circles.

Cut each piece using the outer most line, try to cut right on the line.

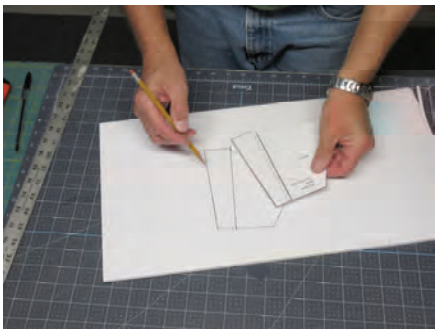
Once all your poster template pieces are cut out, your ready to start cutting your foam parts.

Transferring Your Template



Patterns to Foam Board

Now that you have your part templates, reposition these parts, one at a time on a sheet of foam board. You can use the same layout you did when you created your poster templates if your foam board is the same size. .



Start with a simple part first like the rudder or elevator. Trace the component outline onto the foam board using a #2 pencil and then transfer the inner pattern lines shown on the template to the foam board as well.

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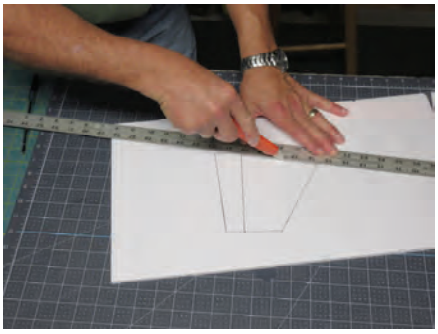
There's no short cut for doing this. You simply have to measure and redraw them onto the foam board.

You'll find a "Drawing Key" diagram with every Flite Test plan (shown on the previous page.) This key describes the various types of foam cutouts and folds.

When transferring the plan markings to the foam board, it is not necessary to transfer all of the colored pattern lines shown on the sheet. Concentrate on transferring only those lines that will require a knife cut. You can refer to the template itself for the type of fold and/or foam removal. This will save you considerable time.



Cutting Out Your Foam Parts

Once you have all your pattern pieces drawn up on your foam board, it's time to start cutting.

Again, always use a metal straight edge to cut your foam and do this on a protected surface so you won't damage your table.

It's also important to cut your foam parts in a "perpendicular" fashion. This means that you should hold the knife at a 90 degree angle to the surface of the foam board. This will give your foam piece a nice square edge.

Start with a simple part first like the rudder or elevator. Don't press too hard with the knife but let the knife do the work for you.

Preparing A Culling Knife

In building these models it's handy to have two matte knives; one that used for cutting out foam parts, and another used exclusively for removing foam.

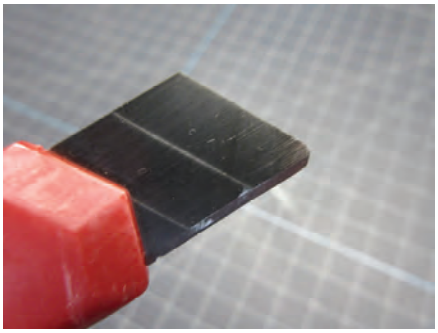
Many parts require that some of the Styrofoam be removed from the board. More specifically, the paper and foam needs to be removed from one side of the board, leaving the paper intact on the opposite side.

In our Builder's Workshops, we spend the entire first session learning how to make accurate cuts. It would be worth while for you to do the same using some of the extra foam board you have left over before starting in on your good parts.

To make it easier to remove foam, we modify the second matte knife by "blunting" the tip so that cutting through the bottom surface is more difficult.

Here's how to do that.

Take your second matte knife and round off the point of the knife by dragging it across a cement floor or sidewalk area. Drag it as if you are trying to cut the sidewalk. This will round off and dull the tip of the blade which is usually the reason we miss cut into the back surface. The blade should look like this tip when you're done.



Notice that the sharp pointed tip is gone. You can also use a belt sander if you have one, or any other abrasive hard surface that will wear down the metal tip.

Practice Your Cuts First

To practice removing foam, draw a line the full length of a sample piece of foam board.

With your metal straight edge on the line, cut through just the top surface of the paper with your culling knife. Next, make a second pass over that initial cut, holding knife vertically to penetrate deeper into the foam. Try not to cut through the paper backing on the opposite side of the foam board.

Next, take the scrap and see if you can easily break open the cut to create a hinge. The paper should be fully in-tact on the

(Continued from previous page)

back side, holding the piece together like a hinge.

If the piece is too difficult to easily break open, try cutting just a little deeper and try breaking open again.

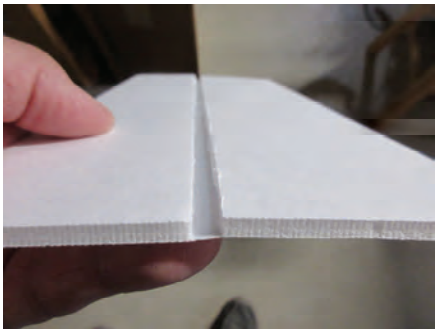
Removing Foam Areas

Removing areas of foam to create a channel is a challenge but with a little practice, it can also be easily mastered.

Using the cutting technique described above, draw two parallel lines about 3/16" apart, then make two parallel cuts as described above. Next, break the foam open to reveal a channel of foam with backing attached.

If cut properly, you should be able to pull away the center section of foam creating a channel. This technique is used to create right angle folds in the foam.

The next practice technique is to create a "ledge" overlap. This is



where you cut along the edge of the foam to remove the paper top surface and underlying foam leaving a paper ledge on the bottom surface.

This technique is used to attach two pieces of foam together at right angles.

Hot Tip:

To make it a little easier to remove the foam for a "ledge" overlap, hold the part flat on the work surface and use a credit card inserted into the cut and then twist the card to separate the foam from the paper backing.

Creating Bevels

The last practice technique has to do with creating a free moving control surface.

When you cut through the top surface and down to the bottom paper surface, you can then break the piece open and move it like a hinge. The problem is that the hinged portion can only move in one direction. For the control surface to be able to move in both directions, a 45 degree wedge must be cut from the hinged area.

This is probably the most difficult technique to master. Flite Test shows how to do this using the blade of the matte knife but we've found that a sanding bar will accomplish the same thing, and do it more accurately.

Creating a Sanding Bar

A "sanding bar" is very handy in building. It's a tool that you'll use over and over. It's nothing more than a flat piece of wood wrapped with sandpaper. The length of wood you'll use for this must be flat and smooth. The bar I use was made from a 9" length of furring strip wood that is about 2-1/2" wide and 3/4" thick.

(Continued from previous page)

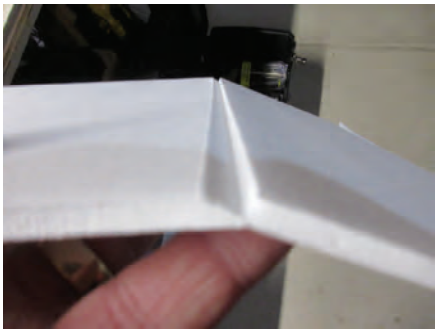
Any piece of wood that meets similar dimensions will work just fine. You can find this wood at any big box home improvement store.

I cut a piece of 100 grit sandpaper so that it will wrap around the front surface, side, and part of the back. I then taped the sand paper to the back side lengthwise, and then tightly wrap it around the front of the bar and taped the other end to the back side as well. This provides a flat sanding surface that you can use to shape foam.

Sanding the Bevel

First, determine which part of the control surface should have the 45 degree angle. Fold the hinge area open and flat, then position it slightly off the edge of your work surface table.

Holding the sanding bar at a 45 degree angle, sand the edge back and forth to create a 45 degree angle on that surface. You can check your progress periodically by testing the movement of the control surface and then return to sanding if more movement is required. This bevel will allow the control surface to now move in both directions.



The Flite Test videos do a much better job of explaining these cuts, so I highly recommend that you visit their site and explore them.

About FliteTest Aircraft

If you choose to build a Flite Test kit, you'll receive everything you need, aside from the tools I've listed on page 15.

The assembly videos also assume that you're going to install their electronic components. These components are also available from FliteTest as "Power Packs." These include servos, motor, ESC, propellers, wiring and a couple of useful screw drivers.

They do not include the radio system, which must be purchased separately.

Complete Build Videos

It's extremely helpful to view one or more of the build videos that Flite Test offers. Each is specific to the aircraft they construct, so you can decide which aircraft and assembly process you're most comfortable with.

As far as glue guns are concerned; there are a lot of them out there in the marketplace. Many of them are difficult to use so we've done some research to

find the best, low cost gun on the market.

We've selected the **"AdTech Craft & DIY High Temp" Glue Gun** for our workshops. The cost is under $10.00. Other guns don't seem to deliver glue in a consistent flow like these do. The gun does not include glue sticks but you can get them at any craft store.

Other Components

Flite Test kits include "control horns" and wire linkage to hook up your control surfaces. These

are made of wood which is not that reliable. You can find something similar at Amazon.

These control horns are adjustable whereas, the Flite Test materials are not. This makes it easy to adjust your linkage after it's installed, which is sometimes a problem with Flite Test kits. Our control horns also include the wire and can be found at:

www.Adjustable Control Horns

Lastly, the motor mount that the motor attaches to is made of plywood. Our parts list include an 1/8 inch sheet of plywood for this purpose. Builders may need access to a band saw to cut this material however, if you are a mom with a student, it can be cut with a matte knife as well. All you need to do is pass the knife over the wood until it is cut through. I've done this myself many times and it works out very fine.

Conclusion

I've tried to give you a step-by-step approach to RC Winter Building. It's not as complete as our Builder's Workshops, but it does get you started.

One Last Important Point

"Scratch Building" is a blend of art and science. Once you learn some of these basic building techniques, you have the knowledge to build any type or style of aircraft you want.

You will make mistakes, and you'll have to recreate parts until you really get good at it.

I've been building using these techniques for a couple of years now, and I still have to re-cut parts that I've messed up. It happens, so don't be disappointed when it does.

If you choose to build an RC aircraft that you would like to fly, we're here to help. Just send me an email at tjacobs421@att.net, and I'll try to answer any questions you may have.

If you're interested in joining us for one of our "Builder's Workshops," we take both student and parents in class alike, and you'll go through each step of the building process walking away with a ready-to-fly RC aircraft for the next flying season.

Please join us!

$10.00 Renewal Discount When You Renew Your Membership Before January 15th, 2021!

Remember to get your renewal in before the closing date to lock in your savings. The discount will not be extended beyond the postmarked closing date of January 15th.

You'll find the special renewal application located in the back of this newsletter.

Please Don't Delay!

Federal Aviation Administration

It's Also Time to Renew Your FAA Registration

The Federal Aviation Administration (FAA) has important registration information for drone recreational flyers whose registration was automatically extended until December 12, 2020.

It's time to renew your FAA registration. The process is simple and easy by clicking the link below and accessing the FAA Drone Zone Dashboard.

FAA Registration Renewal

Be prepared to provide your credit card information to handle the required $5.00 renewal fee.

2021 MEMBERSHIP "DISCOUNT" RENEWAL FORM

All Discounted Fees Are Already Calculated On This Form

You must include a photocopy of your AMA & FAA Registration to receive your membership card!

☐ Check this box if you have updated your address, email, phone, etc.

AMA NUMBER: _____ FAA NUMBER: _____

(Please include copies of both cards)

NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

EMAIL: _____

PRIMARY PHONE: _____ DOB: ____/____ (month and year only)

RADIO CHANNELS CURRENTLY USING:: _____, _____, _____, 2.4 GHz: _____

SPONSOR (Required for new membership): _____

By signing this application I agree to abide by the Field Rules.

Signature: _____ Date: ____/____/____

Make checks payable to The Flying Electrons, Inc.
Mail to: The Flying Electrons
Chris Milbauer
4952 N 106th Street, Milwaukee, WI 53225
414-750-2740
chrismilb@att.net
Academy of Model Aeronautics, 1-800-I FLY AMA, www.modelaircraft.org

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Discounted Membership Renewal Fees

Select the Membership Category (Enter Cost at Right)	**Unit Cost**	**Extension**
Non-Resident - Individual or Family Membership Renewal	$65.00	$
Menomonee Falls Resident - Individual or Family Membership Renewal	$45.00	$
Junior (18 Years or Younger by July 1st) Renewal	$45.00	$
Single Senior (65 or Older by July 1st) Renewal	$45.00	$
Additional Costs		
Add if renewing after January 15th, 2021	$15.00	$
Add if renewing after February 1st,2021	$20.00	$
Deduct if you paid initiation fee previous year	**-$20.00**	-
STEM Student Membership Academy (IP Qualified)	N/C	
Calculate Total Membership Cost Here		$

Incomplete forms will be returned to the applicant. Failure to provide proof of AMA membership will result in suspended flying privileges until proof such as a photocopy of AMA card or confirmation from the AMA is provided to the club secretary.
Applications for AMA membership are available from the club secretary or on line. Acceptance into membership of the Flying Electrons Inc. is contingent upon Club sponsorship, Board approval, and completion of all requirements of The Flying Electrons Inc. bylaws and based on the information provided herein. All fees are payable in advance.

Member Application Form 12/07/2020 TJ

NEW MEMBER APPLICATION

You must include a photocopy of your AMA card to receive your membership card!

☐ Check this box if you have updated your address, email, phone…etc.

☐ Check this box if this is a **"STEM Student Membership Academy"** Application

AMA NUMBER: _____ FAA NUMBER: _____

(Please include copies of both cards)

NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

EMAIL: _____

PRIMARY PHONE: _____ DOB: ____/_____ (month and year only)

RADIO CHANNELS CURRENTLY USING:: _____ , _____ , _____ , 2.4 GHz: _____

SPONSOR (Required for new membership): _____

By signing this application I agree to abide by the Field Rules.

Signature: _____ Date: _____/_____/_____

Make checks payable to The Flying Electrons, Inc.
Mail to: The Flying Electrons
Chris Milbauer
4952 N 106th Street, Milwaukee, WI 53225
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chrismilb@att.net
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MEMBERSHIP FEES AND TERMS

Select the Membership Category (Enter Cost at Right)	**Unit Cost**	**Extension**
New Member Initiation Fee	$50.00	$
Non-Resident - Individual or Family Membership	$75.00	$
Menomonee Falls Resident - Individual or Family Membership	$55.00	$
Junior (18 Years or Younger by July 1st)	$55.00	$
Single Senior (65 or Older by July 1st)	$55.00	$
Additional Costs		
Add if renewing after January Club Meeting	$5.00	$
Add if renewing after February Club Meeting	$10.00	$
Deduct if you paid initiation fee previous year	**-$20.00**	-
STEM Student Membership Academy (IP Qualified)	N/C	
Calculate Total Membership Cost Here		$

Incomplete forms will be returned to the applicant. Failure to provide proof of AMA membership will result in suspended flying privileges until proof such as a photocopy of AMA card or faxed confirmation from the AMA is provided to the club secretary.
Applications for AMA membership are available from the club secretary or from most area hobby stores. Acceptance into membership of the Flying Electrons Inc. is contingent upon Club sponsorship, Board approval, and completion of all requirements of The Flying Electrons Inc. bylaws and based on the information provided herein.

All fees are payable in advance.

Member Application Form 6/29/2020 TJ