Glitch Busters

August 2020

AMA #197

FROM THE EDITOR

At the July club meeting show-n-tell Mike Denest presented a vintage Great Lakes Trainer. He later sent Tom a note about the trainer that I would like to share with you.

Tom,

The model is a Great Lakes 2T-1A Trainer designed and built by the late Bill Northrop, a founding member of Delaware R/C. Prior to that, the club name was the Wilmington Lost Controllers which implied the reliability of the radio control systems available at the time. It was originally published in the February 1958 issue of American Modeler and again in the September 1978 issue of Model Builder magazine. I've verified that this is the model published in AM so that will make it 62 years old! Bill passed it on to other members in the club so that means it has always been a Delaware R/C club airplane. Since it is an artifact, I will not restore it but will do a preservation to keep it in its original condition. Only things missing are a rudder, torque rod and wing struts which I'll fabricate these things to make it complete.

Mike also sent PDFs of the magazine article that featured the Great Lakes Trainer and plans. If anyone is interested in a copy, just send me an email and let me know.

We are still hunkering down at home hiding from the Corona virus, so we haven't been to the field to get any photos. Thankfully others have. This months photos from the field were taken by Ellen and Tom Dicuirci. Thank you both for your contribution.

FROM THE PHOTO EDITOR

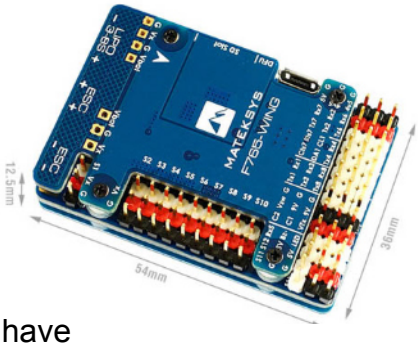
You might have noticed a few changes to the design of the newsletter. I recently upgraded my home computer and found the software I used to create the newsletter would not work on the new computer. Buying the newer version would be very expensive, so I found an alternative: Affinity Publisher.

Publisher is a professional page layout tool. It's part of a design suite that includes illustration and photo apps. Buying all 3 apps cost about what it would have cost to rent Illustrator for 3 months.

The new software makes it easy to do things that were slow and tedious in Illustrator. This has allowed me to give the newsletter a more modern look while also making it easier to read. I hope you like it.

NEWEST PROJECT

By Roger McClurg



I have been watching the development of model aircraft flight controllers for sometime now. For a long time I have been fascinated at the prospect of a sailplane that could find and climb in thermals and at the same time fly a preprogrammed course. A few people were very successful at this, however they and their work were quickly grabbed up by organizations such as NASA and lost to the modeling community.

Recently the idea of using Artificial Intelligence (AI) learning techniques to make the decisions necessary to do autonomous soaring has attracted the interest of a number of organizations including Microsoft Research. The people working on the project are avid modelers and contributors to the open source flight controller Ardupilot. Specifically they have been helping improve the code in Ardusoar a new offshoot of the Ardupilot firmware. While reading about Ardusoar, I became more and more interested...

Recently I came across a new flight controller (FC) called the F765-Wing made by a company called Matek. I never heard of the company before, but it turns out that their FCs are very popular. The Wing series are optimized for use on winged aircraft with from zero up to six motors. The F7 series use the fastest most powerful microprocessors currently used in RC model FCs. The features and functions available in this FC are amazing. It even has a built-in BEC that can take up to 8 cell Lipos and provide up to 8 Amps for servos as well as separate power for the FC, and for video.

The more I learned about the F765-Wing the more I wanted it. Eventually PJ got tired of my constantly talking about the F765-Wing, and told me to just get one, so I did.

The F765-Wing is small. I didn't appreciate that fact until I had to solder all those pins you see in the picture. Additionally power cables going to the ESC and the battery for the motor had to be soldered on. All in all it is a lot of close work, but it's not too bad if you are comfortable using a soldering iron.

My receiver has Sbus, so it only needed one connection from the receiver to the FC to control all the channels. I plan to use the FrSky S.Port telemetry to send the FC data back to my transmitter, so an additional connection is required from the receiver to the FC for telemetry. The model I'm using (an FMS Fox sailplane) has four servos plus the ESC that plug into the FC. The final FC connections are for GPS and an airspeed sensor. Once the wires were all connected, the easy part was over.

Since I use a Mac, my options for flight planning software are limited. A program called Qgroundcontrol was recommended by one of the main contributors to Ardusoar, so I went with it. I started the program and connected the USB cable from my laptop to the FC. The software found and automatically connected the GPS. Even from my basement the GPS was seeing 9 satellites. Hurray, that was easy.

Calibrating the gyros and accelerometer was trivially easy. It all seemed to be going so well. Getting Qgroundcontrol to to recognize my servos and what surface they were operating took quite a while. After hours of reading and testing I finally found and configured the parameters to set my servos properly. After that it only took seconds to do radio calibration. Now at last the transmitter, receiver, FC, and airplane all talk to each other.

So now I'm at the point where

I install the GPS, pitot tube/ airspeed sensor and the FC into the airplane. This is why I picked the Fox. It has a roomy fuselage. I just have to figure where everything has to go so that the FC is in the optimum orientation, the wiring works, and the CG doesn't get messed up. At this point I have carved out all the foam necessary to fit the FC. Now I have to reinforce the fuselage at the wing junction where I had to take out a lot of foam, then mount and install the FC in it's new home. When it's all done, I'll take photos so you can see how good (or bad) it looks.

While on the subject of new projects, why not share yours. I would appreciate it if you could send photos, and a few words about your latest project. If you are ambitious, write a paragraph or two. I'd love to publish your projects next month. Email your contributions to me: roger@mcclurgstudios.com.

NOTES FROM THE JULY 11 MEETING

By Tom DiCuirci

The meeting started at 12:00 PM

15 people in attendance

Membership

- Brian provided the membership report; at this time we have 117 members.
- We do have more folks checking into the Hobby and the field as well.
- We have had some folks inquire about wanting to fly but do not have or have stated they are not going to get AMA membership. If members are at the field and they run into this situation, these folks should not be flying. Call the park police for help if needed.
- We have several flight training requests right now.
- Folks have asked about a flyer being available at the Park office. Brian will be sending them an updated flyer to help with this.

Flying Turbine Jets at the field

- There have been questions about flying Turbine Jets at the field.
- Yes our field is recognized by AMA to fly Turbine aircraft. BUT, there is a process in which to do this.
- Currently there are specific individuals who are qualified to qualify pilots for turbine at our field. You cannot just show up to our field and expect to fly a turbine aircraft.
- There is a process to do this. It will be shared to ensure that folks understand the process.
- The reason for this process:
    - To ensure the pilots who are flying these type of aircraft are observed to have aircraft setup properly
    - Have the knowledge and experience to determine when there is an issue

    - BUT most of all fly in a safe manner.

- We have had incidents in the past that, if, were not caught and could have set the woods on fire, that could have caused Delaware R/C Club to lose the field.

Show and tells

- Greg Shock brought his Hangar 9 Hell Cat. It has a 15CC engine and the landing gear seem pretty stable. He needs to out batteries in it before the maiden.

- Mike Denest brought his aircraft for show and tell.

Fun Fly 2020

- The club is putting together a FUN event for our club.

- The intent is to bring all different types of aircraft to the field and fly, then fly some more

- Date: 29 August 2020

- Food: There are 30 meal tickets being sold for this event. It is the same spread as Warbirds and IMAC. Just plain delicious. Please contact Greg Shock or Tom DiCuirci for a ticket. Each ticket is $20 and counts for one meal.

- This will be a sanctioned event

Treasurer Report was given

Annual planning

- The board will be meeting sometime in the fall to lay out all events planned for 2021

    - We hope next year is better to us

    - We plan on laying out all events for the next year

    - We are also pushing to have a more formalized education program in the club.

Lums Pond IMAC 2020

- This event is still going forward. We are watching other events to see what happens along with guidance provided by our hosts the Park and of course the CDC.

Safety note from the Safety Officer

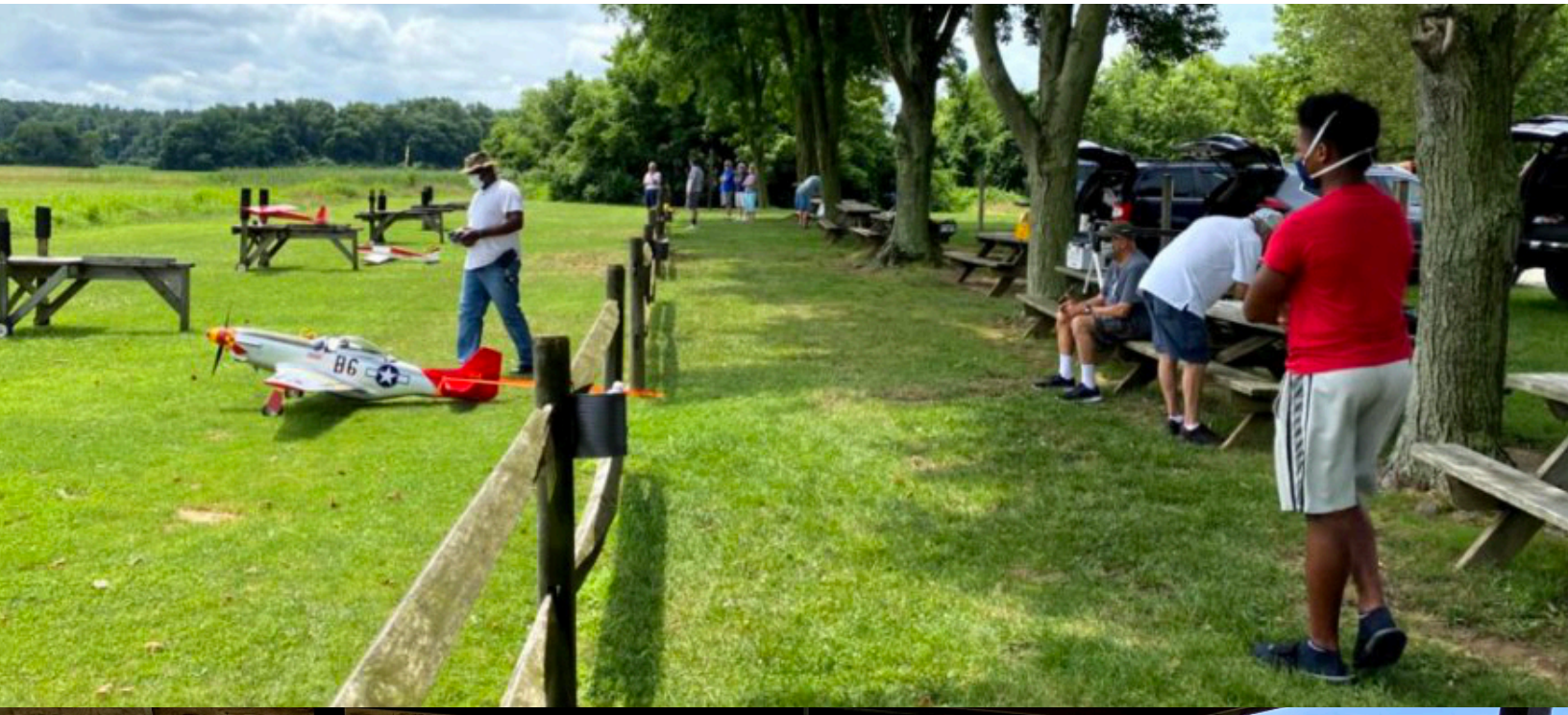
- When practicing maneuvers, please stay over the tall grass.

- Taxiing in the pits is forbidden.

- We have some amazing pilots, we just try to remind everyone.

PHOTOS FROM THE FIELD

By Ellen and Tom Dicuirci

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