



**July 2022**

## **SECRETARY'S CORNER**

**Jeff Killen**



My latest building project begins with acquisition of a J-3 Cub acquired during a summer club meeting in 2021. This is the Sig kit from some years ago, in the clipped wing version, with a 56" wingspan. The Cub, as I recall, was brought to the meeting by Nic Burhans. As I owned another J-3 Cub from about 15 years ago, there was an immediate interest in getting my hands on another one.

Whoever owned this plane before me built it well; things fit together well in many places. However, it was needing several things to get it ready to fly. Here is the list of actions needed to get it airworthy:

1. Select a radio system to use
2. Install Rx, and 2 cabin servos
3. Install wing servo for ailerons
4. Attach landing main gear
5. Add 2 wheels to landing gear
6. Transfer electric motor/ESC to plane
7. Attach cowl to nose
8. Build 2 ailerons, and attach them to wing

9. Build rudder, and attach it to vertical stab
10. Attach tail wheel to rudder
11. Fill in cowl hole left by glow motor

### Select a radio system to use

Also, last summer, I attended the RC yard sale which Nic Burhans held at his home. There I purchased a Futaba 9 channel system, with 4 receivers. This programmable Tx can be set up for each of the receivers. I had chosen this system for the other J-3 Cub, so I thought "why not have the system operate both of the Cubs?"



### Install Rx, and 2 cabin servos

The spacious cabin had plenty of room for two servos (elevator and rudder). All I had to do was add a hardwood rail to catch one side of the servo mounting screws. The flexible control rods were already in place. I checked the control throws for these two servos before installing them to ensure the directions were correct without changing from the

installation being used for the other J-3 Cub. One of the servos had a broken connector, so a bit of soldering with a good connector solved this issue.



#### Install wing servo for ailerons

The one-piece wing came with the control rods installed. Each went out to a bellcrank in the wings. A slot was there for easy attachment to barn-door ailerons. There was even a servo control wheel attached to the rods where the servo would be installed. All I had to do was mount a servo, and attach it to the control rod.

This turned out to be a bit of a chore. The control wheel had to be replaced as the fitting for the servo shaft was wrong. After that fix, I had to find a way to immobilize the servo. The best solution turned out to be a plywood plate with screws which would render the servo stationary when the wheel turned.



#### Attach landing main gear

The landing gear mains were a wire assembly with some sheet aluminum. Two slots were in the bottom of the fuselage ready to receive two wires. So I found some flexible rubber (4 pieces), and attached these to the fuselage with 2 screws each. The gear still moved left and right, however. So I found a sturdy place to add one more screw to each side of the fuselage to make the gear stationary.



#### Add 2 wheels to landing gear

I found two wheels of appropriate size (2.5 inches) and slid them onto the wire gear. A rubber fuel tubing piece on each side secured the wheels on their axles.

#### Transfer electric motor/ESC to plane

The motor for this plane is a Park 480. I have one of these flying my large Olympus 1 eight foot glider. The glider weighs in at about 3 lbs. At the end of the project, I discovered that the J-3 will be 3 lbs, 13 oz. So I will be watching for an underpower situation with the Park 480.

The motor and ESC came from a plane I was not using. The hardest part of this step was building a standoff from the firewall for the electric motor. Careful measurement with the cowl got the motor in the right position. Propeller is a 11/7 electric prop.



#### Attach cowl to nose

The cowl came with screws, which I had been saving until the mount was ready. There is a large hole on the right side of the cowl for a glow motor.

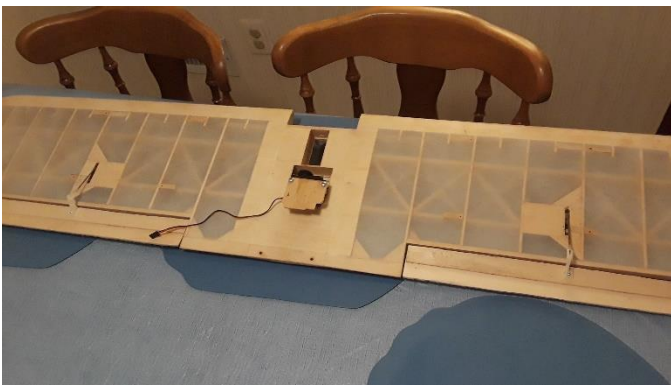
#### Build 2 ailerons, and attach them to wing

The plane came with neither ailerons or rudder. But half a hinge was built into the wing holes for the ailerons.

I checked the hobby shop in Chantilly for needed wood. Tapered stock typical for ailerons was not available, but I had a scrap in my old wood that was just right for two ailerons. I glued these each to a piece of basswood.

I found the correct size hinge to match those used in the wings. I used an electric slot tool to cut slots in the ailerons and installed the half hinges. These hinges are extremely tight. Small metal pins (you can use tiny paper clips if necessary) completed the mounting of the 2 ailerons.

Control horns and shortened rod/clevis wires completed the connections.



#### Build rudder, and attach it to vertical stab

The vertical stab was built with a stick and tissue structure. But I decided on sheet balsa for my rudder. I was able to get an accurate drawing of the rudder size from my other Cub.

To build the rudder as one piece, I would need a slab 4 inches wide. I did not have this, and currently you can't get balsa this wide at the hobby shop. So I decided to place 2 inch pieces side by side in a vertical run to build one half of the thickness of the rudder. The other half was built from sheet balsa running fore and aft in line with the fuselage. This worked out well. After all the glue set, I spray painted the rudder white to match the tissue color.

The vertical stab had hinges like the wings did for the ailerons. So I added half hinges to the rudder. These hinges were much looser than the aileron hinges. So I put a wooden peg thru the hinge and glued it in place to keep the rudder in place.



#### Attach tail wheel to rudder

I first tried to use a tail wheel off an old model, but decided this would be too difficult to attach to the rudder. Instead, I bought a package with a wheel, mounting bracket, rudder and wheel control horns, and springs to turn the wheel when the rudder moves. The mounting bracket needed a small plywood plate to receive 2 blind nuts which hold the mounting bracket in place. Wood screws secure the plywood plate to the aft end (and bottom) of the fuselage.



#### Fill in cowl hole left by glow motor

I tried a 2 liter soda bottle top to use as the fill in for the hole. But this did not fit well. I had a scrap pilot cockpit cover, and found a section where the curves are about right. I have spray painted this white, and installed it under the main cowl. Colors did not match exactly, but it's the best I could do.



#### Weight and Balance

My check before beginning the repairs said the finished plane should weigh 3.5 lbs. The final weight is 3 lbs, 11 oz. A balance check indicated adding 2 oz to get a slight, nose down attitude.



As of this writing, I have not yet flown the model. I will let you know later how the flying went.

This project has re-acquainted me with the joy of building and repair. I recall as a teenager not liking to build planes, but I liked flying them. Now, with an adequate place to build (a ping-pong table), and an air-conditioned room, my attitude has definitely changed.

Fly Safe,

*Jeff Killen*

#### ***EDITOR'S NOTES – Upcoming Events***

**Jeff Killen**

- 1. Club Meeting, at the field, 7:00 PM, 7/26/2022 is CANCELLED.**
- 2. AMA Aerobatic (pattern) NATS, Muncie, IN, all day, 8/1-5/2022, [www.modelaircraft.org](http://www.modelaircraft.org)**
- 3. FARM Club Day & Fun Fly #5, at the field, all day, 8/7/2022 - pilot training and flight check day, CD: tbd**
- 4. Shenandoah Pattern Classic, Harrisonburg, VA, all day, 8/20-21/2022, CD: Don Click, [dclick1@verizon.net](mailto:dclick1@verizon.net)**

## **SECRETARY'S REPORT**

**Jeff Killen**

The June club meeting was held at the field on June 28. Seven members were present.

Dave Rothbart began with a choice of our hero of the month. This time Nic Burhans got the nod for his work on the Float Fly event in June. We had a good turnout, made \$227.99 on the event, and had about 25 club members there. We had folks from Delaware and Fluvanna county attending. We also donated \$110 and 30 lbs of food to the local food bank.

Next item was the Phil Coopy memorial plaque. Cost of the plaque was donated by Ernie Padgette.



Charlie Koustenis gave a few words summarizing Phil's contribution to the club. Phil worked in the area, and retired here in nearby Catlett. He became an instructor on model airplanes with the county in adult evening classes. Pete Rawlings joined in that effort. The park and recreation department of the county helped start the FARM club, and came up with the name. Charlie had a 1995 club newsletter in hand showing Phil's picture as he was president that

year. Phil also helped us get two fields: Foxfire and at the Rhynalds residence. Phil's work began before 1989, the year Charlie joined the club. Charlie will notify Phil's wife of the plaque and send her some pictures.

### **Officer Reports**

Treasurer – Nic Burhans - He added a few words about the Float Fly. Thanks to all who helped with the event. We sold 45 of 60 lunches available. Thankfully, the weather was also good.

The bank balance now sits at \$6271 which is \$471 ahead of budget for the year. This is a good place to be at this time of the year.

Secretary – Jeff Killen – No report

Vice President - Ernie Padgette – No report

Field Marshall – Ralph Graul – He reported that the John Deere tractor is running roughly but will be fixed soon.

Field Marshall – Gordon Collyer – absent, no report

Member-at-Large – Charlie Koustenis – No report

Web Master – Dick Sutton – absent, no report

### **Needed**

We need a good electric trolling motor for the club's boat used during the float fly events.

### **FUN FLY #4 RESULTS**

#### **Nic Burhans**

FARM 2022 Fun Fly #4 results:

1st. Ken Bassett	4 Points
2nd. Doug Cash	3 Points
3rd. Ernie Padgette	2 Points
4 <sup>th</sup> . Dave Rothbart	1 Point

We had an additional spectator.

The next FARM Club Fun Day and Fun Fly is scheduled for Sunday, 7 August. We are still looking for a CD for the 5th day's events and Fun Fly.

**FARM OFFICERS for 2022**

President. . . . . Dave Rothbart 703-327-0476  
 Vice President . . . . . Ernie Padgett 540-439-6085  
 Secretary . . . . . Jeff Killen 703-369-0807  
 Treasurer . . . . . Nic Burhans 540-219-9646  
 Safety Officer . . . . . Gordon Collyer 540-547-4117  
 Field Marshall . . . . . Ralph Graul 540-729-1586  
 Member at Large. . . . . Charlie Koustenis 703-378-6214

**FARM Newsletter Staff**

Editor Jeff Killen

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Jeff Killen  
 10297 Woodmont Ct. E-Mail:killenjeffrey@gmail.com  
 Manassas, VA 20110-6164  
 703-369-0807 Our web site is: <http://www.farmclubrc.com>

**FAUQUIER AERO RECREATION MODELERS**  
 Jeff Killen  
 10297 Woodmont Ct.  
 Manassas, VA 20110-6164



**Lloyd Hinrichs and Ralph Graul with their Turbo Timber park flyers. 6 oz., 2S-300 mah lipo**