



# Colonial Virginia Aeromodelers

**Chapter 1474**  
**Newsletter Volume XVI • Issue 10**

**October 2016**  
**Editor: Alan Fry**



## **Presidents Column: John Backes**

### **Meeting Schedule**

All future meetings (except for the Christmas Dinner) in 2015 will be held at the Williamsburg Christian Church on the second Thursday of the month, starting at 7 PM. The next meetings will be October 13 and November 19.

Direction to Williamsburg Christian Church – The building is at 200 John Tyler Lane. At the intersection of Route 199 and Route 5 turn the OPPOSITE direction that you would turn to go to the field. Go 50 yards and turn right (left is Strawberry Plains Rd). You can't miss the church; it is on the right just past the professional park that you can see from Route 199.

Everyone needs to be warned that there is an additional fine of \$200 for going over 25 MPH and the cops are there a lot.

### **Show and Tell**

I would like to have the Show and Tell be a major part of each meeting. There is a TV that we can use for showing videos.

### **Election Results**

The elections were held during the September meeting. The results were:

President - John Backes

Vice President – Tom Treese

Secretary – Winston Sheperd

Treasurer – Jon Persons

I would like to publicly thank Gary Clifford for his work as the Secretary for the last four years. Gary did much more than was required by the job. He organized the club records to a level much higher that had previously been done.

### **CVA Events**

We will have a Picnic on October 15. There will be Slow and Nutball Combat during the picnic. The club will provide Hot Dogs and Drinks. You may bring a side dish or desert to share but it is not required.

CVA Warbirds is rescheduled to October 22.

### **Budget**

The budget will be submitted for approval at the October meeting.

## **Christmas Dinner**

We need to make a decision at the October meeting. If you have any ideas, please do the preliminary research and bring the information to the meeting.

## **Contact Me**

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## **Secretary's Report: Gary Clifford**

CVA Meeting Minutes 9/8/16

The September 8th, 2016 meeting, held at the Williamsburg Christian church, was called to order by the President at 7:02pm with 17 members and potential new member present. The President announced the minutes of the August meeting that were published in the corresponding newsletter. A motion was made to approve the minutes as published. The motion was seconded, a vote taken and approved unanimously.

## **Treasurer's Report:**

The treasurer reported income from the recent NMAD event, one new member and hat sales.

## **Site Improvements:**

Tom reported that he and Bill had mowed the runway and overrun area back to the safety fence and again noted minimal growth due to the continuing heat and dry conditions. He also stated that all the new assembly tables are in need of another treatment with a wood preservative.

## **Activities:**

Alan spoke about yet another very successful NMAD event that featured 31 pilots and no viewing complaints from spectators. The club was able to donate \$125 to our chosen charity "Homes For Troops", the 50/50 winner donated half of his winnings back to the cause and John's foam delta gilder design was a big hit with the children. The only noted hiccup was some incomplete entries on the new AMA registration form.

Jon reminded everyone to get their Cubs ready for the Cub Fly on Sept. 24<sup>th</sup>.

John mentioned the CVA Big Bird event on Oct 8<sup>th</sup>, the F.A.R.M. Float Fly on Oct. 1<sup>st</sup> and that NNPRC's Electrics Over Tidewater next weekend is a premier electric event and encouraged our members to attend.

## **Safety:**

Nothing to report.

## **Training:**

Nothing to report.

## **Club Promotion:**

Previously discussed under Activities.

## **Old Business:**

Nothing to report.

## **New Business:**

John asked everyone to start thinking about the location choice for our annual Christmas Dinner and bring the information to our next meeting for consideration.

John thanked Gary for his services as Club Secretary since 2012.

Tex announced that the Nominating Committee had confirmed that the offices of President, Vice President and Treasurer would remain as is and that Winston Shepherd has agreed to assume the duties of Secretary. A motion was made to accept the new slate for the upcoming year. The motion was seconded and approved unanimously.

Gary mentioned that Winston and Fran & Steve had already agreed to participate in the open house event at New Kent Airport on Oct 15<sup>th</sup> and stated that although this is the same day as the club's Fall Picnic, anyone that could find some time stop by to represent CVA would be appreciated. Many of the pilots that treat us to full scale fly-bys during our events are based at New Kent Airport.

Winston indicated his investigation into the health of our PA system found some bad internal connections in the microphone and suggested replacing it with a state of the art unit from Radio Shack. A motion was made, seconded, and passed to proceed with the purchase.

### **Show & Tell:**

Prospective new member Neil Suesz introduced himself and spoke about how his interest in R/C started. Welcome Neil.

Bob Felberg gave an update on the continuing health issues of former member Pete Rawlings.

John displayed his latest discovery, that being, a superior elastic band to replace the old #64 that we usually stretch to suit our requirements. These new bands are a #117B offered by Hobby Express.

John indicated his triple delta formation aircraft is performing much better with the CG change and refined mixing of control surfaces.

### **Personal Note**

As I step down from my Secretarial position at this election would like to take this opportunity to thank each and every member of CVA for your support during my tenure. I have enjoyed both the responsibility and the privilege this position offers. I have had the pleasure of reading through all the very old minutes several times and there is some pretty amazing stuff in there. But the fact that is most prominent through all of them is that aside from having the most desirable flying field anyone could ask for, what makes this club great is the members. Each and every one of you has a role. Some big and some small, but the diversity of knowledge and personality and interaction is the glue that holds it all together and I'm proud to be part of it. You should be too.

And finally, let us never forget what tremendous role the Hofmeyer family has played in our club's history. Not only as a great landowner but as an active participant in our continued growth.

Thank you  
Gary Clifford

There being no further club business the meeting was adjourned at 7:50pm.



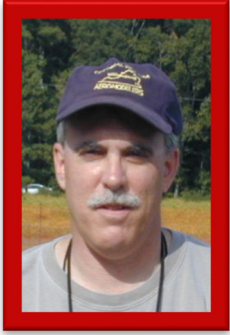
### **Activities: Joe Musika**

We did put on the Cub and Cousins event last month and it was a BIG success! Twenty two pilots flew over the day. Lots of airplanes, both big and small flew and everyone enjoyed themselves! Thanks to John Persons our event was a big success, he deserves all the credit. This month we have 3 events planned. The first is a Giant Scale. In order to fly in this event the plane must have a wing-span of 80 inches or longer if a single wing. Multi-wing planes must have wing span of 60 inches or longer. The date is OCT. 8th, GOD willing!

Oct. 15th is our annual Fall Picnic. It is open to all, and it's rain or shine! If you wish to bring a dish, feel free too!! It's a fun day. Oct. 22 we will be having Warbirds over Williamsburg!! It is

always a big event, and we hope for a lot of entries. This event is the culmination of our season, so let's go out with "A BANG"

More next month.....



**Training: Alan Fry**

**Website of the Month:**

**Heads Up RC** recently revamped their online store website. One improvement is the addition of a wish list which can be used to store items that you want to purchase until you are ready to place an order. I think the overall layout of the website has been improved. Here is the link:

<http://www.headsuphobby.com/>

**Do you have a favorite website? If so, let me know and I will put it in the newsletter. Favorite online store, how to build, how to fly, etc- send me the link! My email address:**

[AlanWFEmail-CVA@yahoo.com](mailto:AlanWFEmail-CVA@yahoo.com)

### **Ten Radio Control Mistakes to Avoid, Part 3**

The following is part 3 of a reprint from **CrashTestHobby.com** and is used with permission from Lee Aston of CrashTestHobby.com:

**Don't have too much movement in the flight surfaces.** More movement does not make your plane fly better. If your elevons move too far the air flowing over the wing is disrupted and the plane can stall and spin or snap roll when it is not expected. We use big elevons to get smoother air flow. They only have to move a little bit to have a lot of effect on the control of the plane. If you watch the videos of us flying you can see how aerobatic our planes are even though we have a small amount of movement. This control comes from having the center of gravity in the right place, a light plane and the right amount of movement in the control surfaces.

You can double the strength of your servos by the way you connect them to the elevon horns!!!

Push rod should go from the second hole out on the servo arm to the top hole in the horn.

One of the most common RC mistakes is the servo gets overloaded and fails under high stress.

We build combat planes. We abuse our linkages. Here is how you make them secure.

Leverage problems are difficult to see on the workbench but happen in the air with the forces of flight.

Stress your elevons and linkages as a test before flying. Make sure everything is solid and not flexing or moving.

Set your linkages up as shown in the drawing below.

Glue your servo so it is solid in the wing and cannot move under extreme pressure.

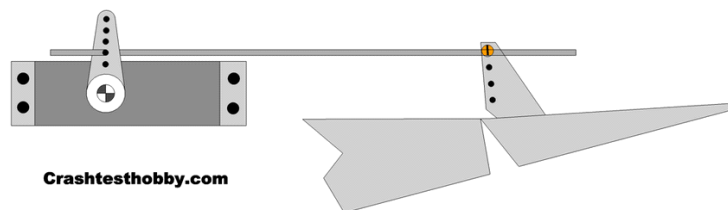
Make sure your elevon horns are tight in the elevons. Loose horns can be hard to diagnose but can happen on older planes.

Use a push rod guide to keep the wire from flexing under compression. If the push rods flex your plane will not be easy to fly. You need to be able to turn the servo by moving the elevon from the tip with the radio off without the push rod flexing.

Your elevons must be stiff and not be flexing under stress.

Don't use the programming on the transmitter to reduce throw until you have set up linkages as shown:

## **Maximize Leverage**



## Trimming and Balancing Your RC Plane Video:

<https://youtu.be/YigsjfPIEjg>

## LED Light Installation on a flying wing:

<https://youtu.be/e3gUJ7eCLuc>

### Program your radio correctly -

Don't have too much movement in your flight surfaces or your plane will snap roll and be hard to control.

You want the elevon to move up 3/8" and down 3/8" with aileron roll.

You want the elevon to move up 3/8" and down 3/8" with elevator up and down movement.

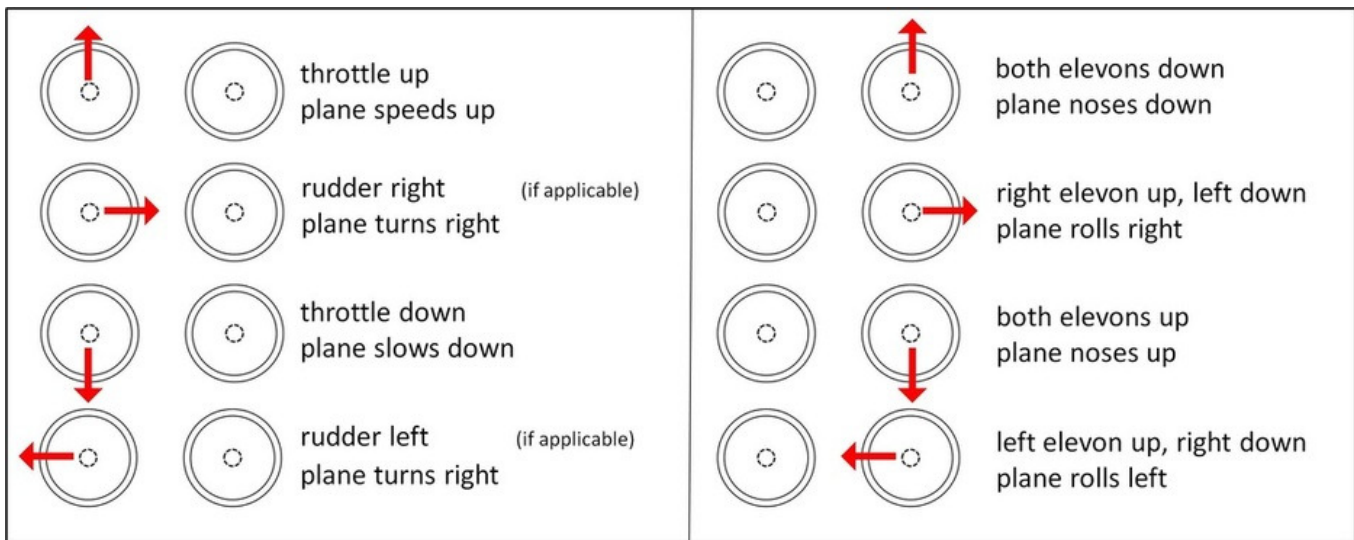
If your linkages are set up as shown above you shouldn't have to reduce throws on the transmitter.

You can double the power of your servo by how you connect your push rods.

You want your servo to turn all the way but only give the desired amount of movement in your elevons.

The bottom diagram describes elevon movements with you standing behind the plane.

All flying wings have a little reflex or about 1/4' up trim on the elevons. This is normal.



### Anything that pokes up or out of the wing airfoil pattern will disrupt air flow.

We have to live with servo arms, control horns, push rods and an occasional battery plug but even these parts decrease the glide and increase the energy consumed. FPV requires more individual components and all of them need to be buried so they don't disturb air flow and create turbulence. Your plane will fly better if you bury the components. The top of the wing is more sensitive to this disruption than the bottom of the wing or the fuselage.

I know we leave some of our wires exposed and aerodynamically that is a crime. Anything that disrupts the airflow over the wing where the lift is created will kill lift. Wind tunnel tests show something as thin as a piece of scotch tape can disrupt airflow and change the lift. LED lights stuck to the outside of the laminate really kill lift especially if they are on the top of the wing. LED lights should be buried in the foam and covered with laminate for the plane to fly its best.

Take a look at spoilers on gliders. All they do is disrupt the air over the wing and the plane drops out of the sky. A lot of the FPV gear sticks up in the air flow and kills lift. LED lights kill lift if they are left exposed. The worse violator we frequently see is the flat front of the GoPro camera. I like the video quality of the GoPro but it does not have an aerodynamic shape. For this reason I use the Mobius Camera instead. Even on a plane as big as the Herc I can feel the difference in the way the plane flies with a GoPro on it.

Keep the airflow over the wing as smooth and undisturbed as possible!!

### Make sure you are using low temp glue stick with a low temp glue gun.

We have seen high temp hot glue sticks used with a low temp glue gun. The hot glue may flow but won't penetrate or stick to the servos, control horns, wing dowels or motor pods and sometimes even the foam. Hot glue is my favorite way to build because I can build clean and fast, but you have to get the right glue at the right temperature.

Another glue problem you need to be aware of in hot weather or if you paint your plane black or another dark color or let your plane sit on a black hot road in the sun or if your plane is left in a hot car, is your hot glue may melt and get soft. I have had a couple of control horns pull out in extremely hot weather. I have also see servos come out in hot weather. I think their black color may have had something to do with it.

I have also learned to be aware of the temperature and protect my planes from extreme heat because heat can also warp a wing or elevon or aileron as the laminate reacts to the high temperature. Wing warping can also happen with uncovered wings like on the Albatross or the Pelican. This is a rare problem but something that happens in hot climates or more often in cars on hot days.

### Set up your power train correctly

The throttle position varies between radio brands.

You need to know where your throttle output on your receiver is to know where to plug in your ESC.

Do you have the right set up for your size and speed of plane?

Do you have the right battery and ESC for the motor and prop you are using?

Using the wrong propeller for the speed you want to fly and the size of your plane is a common set up problem.

Is your battery, ESC and motor hot after you fly? If so use a smaller prop or bigger motor, ESC and battery.

The sound my motor makes often is a clue that I have a prop, battery, or set up problem.

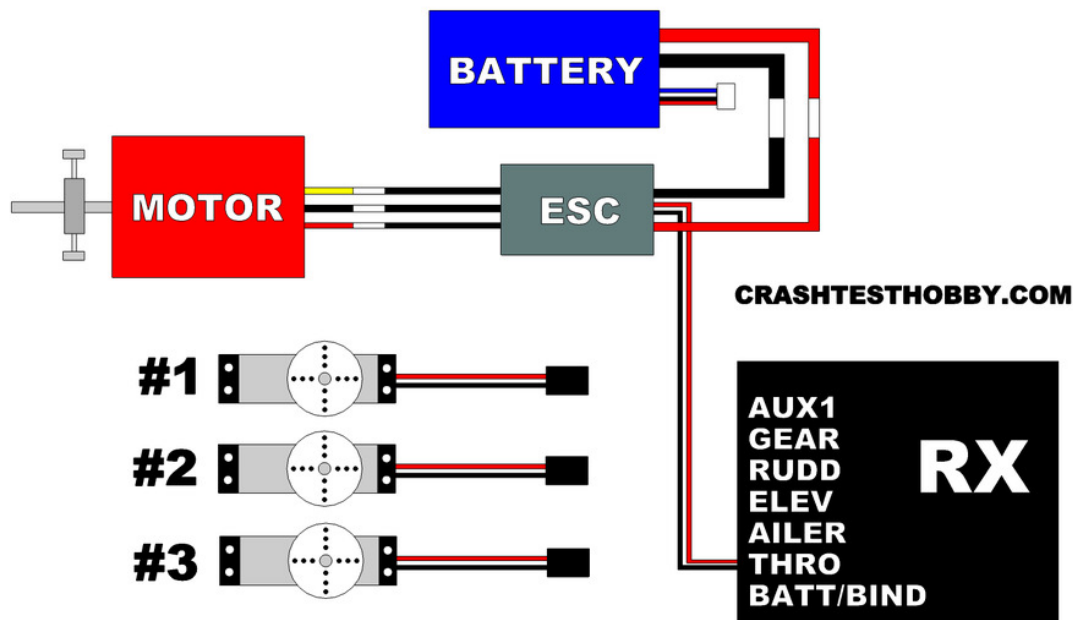
Read below for more information on each of the components and how to set up and trouble shoot your system.

Even I have had my prop on backwards recently. It is easy to do and sometimes hard to diagnose.

Weak batteries have also frustrated many flyers who thought they had different problems.

Trade out parts **one at a time** if you are having trouble diagnosing a problem.

Try a different battery, ESC and motor if you lack power or have the motor cutting out.



We include clear laminate in our kits. We get a lot of questions about how to laminate correctly. See the videos below and watch the techniques.

**There is a secret. When you laminate keep the iron cool.** The laminate sticks from about 165 degrees to 240 degrees. You want to stay as close to the bottom temperature as possible. The higher temperature will melt and distort the foam and warp the wing. You don't need an inferred thermometer to laminate. Before you start ironing on the wing and elevons take a few laminate scraps and iron them to your box. Turn your iron down to where the laminate just barely sticks without wrinkles. After the laminate is stuck down you can turn the iron up a little for a final once over to make sure it is stuck down and shrunk as needed.

**Hobby irons do not have good thermostat control.** They can fluctuate wildly. In testing I can have a 50 F degree swing without changing the setting on my name brand irons. My iron tends to overheat if I leave in on the bench for too long between times it is used. I keep a wet rag on the bench and cool the iron if it has been sitting so I don't cause problems with the laminate... especially on the elevons. I have used a water spray bottle before to cool the iron but it may get moisture in the wing and edges and keep them from sticking.

Lay out your laminate with about 2" extra on all edges. I like to make a long straight stroke down the middle of the wing as my first stroke of the iron then work the laminate to the edges to get out the wrinkles. If you work from a corner or an edge, the wing can warp. It also helps to get a flat wing if you iron the laminate on the bottom of the wing first.

When the iron is too hot a couple of things happen. First the laminate starts to shrink before it is touching the foam so you get wrinkles. This is more common on the thinner elevons that can quickly overheat. The reason the laminate adhesive doesn't stick as well with too hot of an iron is that the hot glue doesn't cool and set fast enough before the laminate has come back off the overheated foam. Also the hot air expands and leaves air bubbles under the laminate that can lift it off the foam. If your iron is too hot and you try over and over to stick the laminate down, your laminate picks up some overmelt from the foam and then the laminate adhesive is deactivated. Closely watch for distortion in your airfoil and the elevons as you laminate. The foam melts and changes shape with too hot of an iron so you get flat areas on the wing and thin sections and wrinkles on the elevons?

The laminate we use in our kit is the easiest laminate to control I have used. It is stronger and easier to apply because it doesn't shrink as much as Monocoat or Ultracoat and doesn't split with a hard landing. You will do a better job if you understand its properties before you use it the first time. You need to learn a how it behaves at different temperatures. The second plane is always easier than the first. Several of our plane videos show how to laminate so watch the demonstrations before you start.

### **The advantages of our clear laminate are:**

We include it in the kit at no extra charge.

It offers great UV protection of the foam and of the Extreme Tape.

It doesn't need a spray adhesive (3M90 or 3M77) to get it to stick.

If you use a spray adhesive you are adding weight to your plane.

It is stronger than Ultracoat.

It is easier to apply because it has less shrinkage.

Repairs and wrinkles are almost invisible because the laminate is clear.

You can see the structure of the plane through the covering making it easier to see if there is damage.

You can add decals and colored packing tape to get color.

You can use holographic tape that adds a 3D dimension to the appearance of the plane.

The clear laminate is the product of choice if you are adding LED lights.

We still see a lot of planes covered with the Ultracoat. They do look good. I have used it myself.

### **Windowmaker #2 Laminating with a Cool Iron video:**

<https://youtu.be/qP94aH7Zpjw>

**Grim Reaper Build #2 M Laminating:**

<https://youtu.be/S74ldmrO9vA>

Part 4 will be in next month's training column.

See you at the field.

Alan Fry  
Training Coordinator



**Vice President: Tom Treese**



**Safety Officer: Cliff Casey**

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