



Colonial Virginia Aeromodelers

Chapter 1474
Newsletter Volume XVI • Issue 9

September 2016
Editor: Alan Fry



Presidents Column: John Backes

Meeting Schedule

All future meetings (except for the Christmas Dinner) in 2016 will be held at the Williamsburg Christian Church on the second Thursday of the month, starting at 7 PM. The next meetings will be September 8 and October 13.

Directions 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 can be seen 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.

Something Different Event

We had 24 pilots with over 50 airplanes participate in the event. We did have a Flying Witch and Flying Lawnmower this year. We did have a wide variety with biplanes, twin engine, deltas, parasail, electric ducted fans jets, rocket launched and several other variations. There was a lot of flying all day long. Thanks to Tex for getting the food, Jon Persons for cooking and Joe Musika for helping with registration.

Another big success!

We held the National Model Aviation Day Open House on August 27. The purpose of the event is to increase awareness of our club and hobby in the local area. Thanks to Alan Fry for organizing the event and to all the members that participated to make the event a success. This event is in its fourth year and is definitely increasing awareness of the club and also is helping to increase our membership. We got do exposure from a nice article in the Gazette, which even had a video, and also associated pictures. Follow the links below:

<http://www.vagazette.com/news/vanews-climbing-high-into-the-sun-20160828-story.html>

<http://www.vagazette.com/life/vanews-pictures-national-model-aviation-day-20160827-photogallery.html>

Elections

The elections will be held during the September meeting. All current officers but secretary have agreed to continue if elected. Nominations from the floor will be accepted prior to the election.

Budget

The budget must be submitted for approval at the October meeting. If you have any suggestions for changes in the budget please contact an officer after the election.

Christmas Dinner

It is time to start thinking about where we want to go. If you have any ideas, please do the preliminary research. We probably need to make a decision at the October meeting.

Cub Fly

The Cub Fly this September 24 will be our 24th annual event. Get your planes ready!

Show and Tell

We are going to have a short show and tell at the end of each meeting. This only works if people take the time to prepare and bring something to the meeting.

Contact Me

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Secretary's Report: Gary Clifford

CVA Meeting Minutes 8/11/16

The August 11th, 2016 meeting, held at the Williamsburg Christian church, was called to order by the President at 7:00pm with 15 members and one guest present. The President announced the minutes of the July meeting that were published in the corresponding newsletter. After a correction to the date for WOW XI from 10/27/16 to 10/22/16 was noted, 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 three new members.

Site Improvements:

Tom reported that the grass continues to grow fast enough to still need mowing every three days to keep the runway flyable. Ed Zwierski has been weed whacking along fence lines and around assembly tables. Both tractors have had their oil and filters changed.

Jon has rebuilt the gas bar-b-que grill and removed the charcoal that was incorrectly placed inside.

Activities:

Joe spoke about the success of our recent Something Different event that had 24 pilots flying 50 different aircraft including a witch, a lawn mower and an unusual formation that consisted of three individual aircraft connected together. He also talked about some upcoming area activities including NNPRC and Tidewater RC hosting their NMAD events.

Alan ran through some considerations for CVA's NMAD celebration on August 27th. He also discussed the day's action packed schedule and provisions for spectators.

Safety

Bill Talbot explained how his transmitter accidentally got turned around on the neck strap causing the control sticks to be on opposite sides. Applying full up elevator for taxi generated an unexpected full throttle response from the plane which immediately moved forward, took off and promptly returned to earth out of control. Lesson learned!

Training:

Nothing to report.

Club Promotion:

The new road sign still needs to have the posts painted to make it more visible to Route 5 traffic.

Old Business:

Gary presented \$185 to the club treasurer that was generated from the sale of items from the late John Russell estate, and thanked everyone that contributed.

New Business:

Tex once again volunteered to act as the Nominating Committee in advance of next month's elections.

Show & Tell:

Alan displayed an attractively painted Yak he constructed from model airplane foam using fiberglass drywall tape and Foam Tac glue for the control surface hinges and leading edge covering.

John displayed the triple delta formation aircraft he designed, built and flew at our recent Something Different event.

There being no further club business the meeting was adjourned at 8:21pm.



Activities: Joe Musika

Well August is over and the weather was hot!!!! In spite of the weather we had two very successful events. The first was "Something Different". In terms of the weather it was not different but Hot, Hot, Hot. But 25 flyers were there plus a nice crowd. No one was disappointed about lots of great flying!!! Both a lawn mower and witch were seen flying across the sky. John Backus took 3 planes that he attached in a triangular position and flew them. It was quite a spectacle! August 27 was our National Aviation meet. It too was a huge success despite the heat!!! You could barely find a parking spot. Director Alan Fry deserves lots of credit and thanks for a great job.



Training: Alan Fry

Website of the Month:

I got an email from someone named Laurie and she said that she has been tutoring a student this summer named Jason. While working on an aircraft research project, Jason discovered the CVA Links page on our website. Laurie stated that Jason found the CVA Links page to be a good resource of information for his research project. Jason was kind enough to share a link that he found during his research that is not on our CVA Links page. It's a quadcopter buying guide with lots of information on quadcopters. Thanks Jason! Here is the link:

<http://www.bestbuy.com/site/buying-guides/drones-buying-guide/pcmcat381100050003.c?id=pcmcat381100050003>

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

Training Column

The following is part 2 of a reprint from **CrashTestHobby.com** and is used with permission from Lee Aston of CrashTestHobby.com:

Ten Radio Control Mistakes to Avoid, Part 2

Many of the problems flyers have start with how they hold their transmitter. Don't use your thumbs to fly your plane. **Pinch** the sticks of the transmitter on at least the side with the elevons or ailerons-elevator control. This gives you more than one point of reference as to where the stick is smooths out your flight and keeps you from accidentally over-controlling the plane.

Don't move your sticks too far. Most precision flyers move the sticks only about 1/2" from the center position unless they are doing stunts especially on takeoff and landings. The pilot needs to move the stick slowly and wait for the plane to react.

Don't bump the sticks!!! It makes you look like a beginner and feel out of control. When you bump instead of making a slow smooth motion your plane won't fly smooth and will feel out of control because you move the stick too far and too fast and the plane doesn't have time to react. This flight problem has nothing to do with the plane but is solely due to the way the pilot holds and manages his transmitter.

A good launch needs to get the plane level, flying straight and with enough speed. Our videos show many launches that look easy because we have done it thousands of times, but there is a touch to getting it right. We see many new flyers who spin the plane like a Frisbee and blame the crash on the plane. If one wing tip is moving faster than the other it will have more air over the wing so it will have more lift so the plane will roll towards the slower wing. The trick is to release the plane at the right moment when both wings are level and moving at the same speed in the right direction at the horizon. Don't launch too steep or the plane will stall right out of your hand.

Prop torque makes a plane roll the opposite direction the prop is turning. Smaller planes and planes with bigger motors and propellers will tend to roll faster to the left than they will to the right because of the rotational forces of the propeller. You will see planes tend to roll to the left down the runway as the motor accelerates because of the prop torque. Prop torque problems can occur on a hand launch when the plane is moving the slowest and the prop torque is at its peak. A harder faster launch will help to get the plane up to speed to help overcome prop torque on launch.

There are several ways to launch a plane. On some of the videos we launch from the center of the plane and then power up when the plane is out of your hand. One of the other things to notice is how fast you can get your hands back on the transmitter after your launch. Flyers often have already lost control before they have their hands on the sticks and are ready to fly. There is nothing wrong with getting an experienced flyer to launch for you so you can keep both of your hands on the transmitter.

Below are a couple of pictures I got from Howard showing his launch technique – He says "I add throttle to trim the weight in my hand to near nothing, then arc up and toward horizontal, until it flies out of my hand. Couldn't be less stress." There are also a couple of demo videos that show launching techniques.



Demo videos of launching techniques:

<https://youtu.be/Z24tTvKx0A8>

<https://youtu.be/WPDFF14at5A>

Here is a fun video of Steel launching a flying wing.

Steel was 13 years old when this video was shot. He figured out how to throttle up without having his plane fly out of his hand until he was ready. There are a lot of ways to get a plane in the air. This method works for many flyers especially with larger hand launched airplanes as seen in the previous video too.

<https://youtu.be/qGv08FtnhZU>

Motor thrust angle and torque affects the direction and roll of a plane. When you adjust the throttle you may see that the plane pulls up or down. If this is the case, then either the motor thrust angle or the center of gravity needs to be adjusted. Flying wings have reflex, which means the elevons are set slightly upward to help the plane fly straight at half throttle. This little bit of up-trim may pull the nose of the plane up at higher speeds but is normal for all flying wings.

To correct the motor angle, fly the plane to a safe height for a test and trim the plane during a glide to fly flat and level. Give the plane some throttle and see if the plane pulls up or down. If the plane pulls up with increased throttle, you need to tip the motor down. (This is the same for motors in the front or back.)

You will notice the plane may fly level, but will start to roll when the throttle is changed. This is usually due to prop torque and will have to be accounted for by the pilot as he flies. There's not much to do mechanically to change it. Fliers will ask why their plane is rolling or turning better one way than the other. Because your prop is turning one direction the plane tends to turn easier the other direction.

If your plane rolls over as you loop, the center of gravity may be too far back, or you may have too much movement in one elevator, or a warped wing. If the plane stalls easily or you can't pull the nose up when gliding, you may not have enough power, your servos may be too small for your plane or you might have the center of gravity too far forward.

Trimming the Slow Flyers are a little different (Pelican, Albatross, Storm Chaser) The slow flyers are designed to be launched with a harder toss at half throttle and then throttled up. This is to help them be amazing at self stabilization at any throttle setting. Self stabilizing occurs when the plane speed and the trim on the rudder and the angles of the wing and elevator pull the plane to a flat and level flight form any position if they have enough altitude. For example: The Pelican polyhedral wing trainer will pull down until it is up to speed if you launch at full throttle or throttle up from a slow glide too rapidly. This design will then stabilize itself in flight as it comes up to speed and can be trimmed with the elevator to keep their nose on the horizon at any throttle setting.

You can decrease the amount of downward pull if you give a faster toss on the launch to help the plane get up to speed more quickly. You can permanently decrease the amount of pulling by tipping the motor up 3 to 5 degrees by putting two or three 3/16" washers under the bottom motor mount screw which makes it easier to launch, but then the plane is a little slower to self stabilize. The plane will still fly well once it is trimmed with the modified motor angle.

The Pelican has a shorter fuselage than the Albatross so it is more sensitive to the motor angle especially if it is over powered. The down pull on the Albatross and Storm Chaser is minimal due to their increased size.

Why does this happen? When the motor is angled down on the nose of the plane it pulls down more as it is throttled up. As motor speed increases so does the speed of the plane and the lift on the wing, so, the downward angle of the motor pulls down harder to compensate for the increased lift from more air moving over the wing.

When the motor is on a pod it still pulls down because the thrust of the motor is elevated above the rotation point of the wing giving the same effect. I prefer the pod on the slow flyers to protect the motor and prop. Once trimmed in it is hard to tell a difference in how the plane performs in the air other than at wide throttle the plane is a little slower to recover in a dive.

We angle the nose mounted motor to the right because it is below the wing to compensate for prop torque.. We angle the motor on the pod to the left since it is above the wing to compensate for prop torque. It seems odd I know but it works. We point the motor that is on the pod at the front left corner of the fuselage.

This is not unique to our planes. You will notice many planes that have the tail, wing and motor angles set to help trim of the planes. We chose to do it this way to simplify the build and increase the strength of the plane.

Part 3 will be in next month's training column.

See you at the field.

Alan Fry
Training Coordinator



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Safety Officer: Cliff Casey

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