



CMB Newsletter

April 2024 Edition

Vice President's Corner: Jay Zompanti



- Waiting for the rain to stop, the wind to calm down, and the Bermuda grass to start growing.
- Not talking about the dandelion!
- No specific Club items this month.

- **Black Horse - B. A. Eagle Fall/Winter Build 2023/2024 Review by JayZ**



Purchased from MotionRC on September 8th, 2023. I didn't start the build until Late November. It was my original intent to have this build carry me through the short winters here in Virginia. The intent was not to

purchase another ARF this winter. The build is finished and it is only January 12th. So yes, there is another ARF in the box waiting for my attention. That particular model is a Hanger 9 Valiant 10cc which I will build as electric as I did with the B. A. Eagle, back to the Eagle build.

I chose not to go with the recommended setup from Motion. After speaking with them twice, I felt they just could not provide me with enough information as to how they concluded that the suggested electrical components were the best choice. I relied heavily on Ecalc along with the weight and dimensions of the plane. I chose to go with a BadAss motor, an Avian 80 amp ESC, a Spektrum AR637T receiver, a 15x8 Bad Ass wooden prop, and a 6s 6000 Lipo made by Zeee. Future builds will not have Avian Esc's. Don't get me wrong, Spektrum makes great products, and truth be told I am a Spektrum guy. As with everything else around us these days the prices keep creeping up and my wallet is screaming stop. Especially those smart batteries. That is the reason for the use of Zeee batteries in this model. In the size needed here, you can get two Zeee batteries for the cost of one smart battery from Spektrum. Unless you are a serious telemetry user, I would save the money for something else you may want or need.

BadAss - 4530-440KV Brushless Motor – BA-4530-440.

Avian - 80amp ESC.

BadAss - 15x8 Wooden Prop.

Zeee – 6s Lipo – These are heavy.

GatrorRC - white spinner with Aluminum back plate.

HiTec – HS-425BB deluxe ball bearing standard servos.

Receiver – Spektrum AR637T DSMX 6-Channel AS3X & SAFE Telemetry Receiver

Some build info:

The covering on the eagle I found to be very well done. Minimal use of the iron is needed for any wrinkles or securing.

Clevis installation – Sand the clevis a bit and do not be stingy with epoxy. Put some in the hole as well. Have a rag with acetone at the ready. These seem to need a bit more attention during installation than others I have worked with.

The manual I found to be better than some but, yes, there is always room for improvement. Having the large pictures was a great help.

The fuselage I found to be weak in a couple of places and had a couple of stress cracks. The small cutout for the receiver power interruption switch was too small to accommodate the power pole arming plug. Plenty of room to enlarge the hole to accommodate the switch. I just found the structure weak when attempting to push in the arming plug. I strengthened this area with a few pieces of balsa.

The second area is in and around where the fuse flares out to meet the wing. Stress cracks are on both sides, I mixed up some epoxy and covered over them. Hopefully, that will be all that is needed.

The hardware kit was missing several bolts for the landing gear which I had to steal from the fuel motor mount kit.

I found the recommended distance for mounting the motor from standoffs to the prop adapter at 183mm was over by about 40mm. Maybe it is just me but, keep an eye out for this. I measured and dry-fitted the cowl over and over again. For my application, I had to cut the standoffs.

The servo arms will hit servo covers at full movement. Trim the slots (elongate) a bit in the servo covers and you should be fine. Trim a little at a time. Remember, you may not need this because we are rarely moving the servos to their full throw potential.

Battery placement was a big issue for me trying to get the CG at 88mm as the manual stated. For a long time, I thought this was incorrect. I spoke with MotionRC and they stated 88mm was indeed the location. However, they could not tell me where the battery needed to be to achieve this. Using the location of where the fuel tank would have been just didn't work for me with the weight of the battery. I will also add that my choice of motor weighed 5oz more than the motion-recommended motor. However, they did not build the plane so again I do not know how they can make this recommendation.

Some of the guys on RCgroups and HobbySquawk said 88mm was indeed the location. I was looking for some magic to happen but it did not. Placing it where the fuel tank would have been was not the answer for me

no matter how far back I tried to move it. I was still coming in very nose-heavy and would have had to add excessive weight to the tail. And that was not an option.

Relocating the battery was the only answer. Trial and error showed that the mounting area for the battery would have to be where the throttle servo would go (if fueled) was indeed the area for battery placement to hit the CG of 88mm. See photo.



This meant that the existing throttle servo tray needed to be cut away and a new tray installed to allow the canopy to sit on the fuselage correctly. With the help of Gordon Collyer, someone very familiar with and a long-time balsa aircraft builder, we got to it.

First, we needed to cut away the existing tray.

Build and install a lower tray.

As you can see in the photo the lowered tray is almost level with the wing spar.

The new tray is stronger than the original and the top section is removable with the removal of four screws.

This was the only way the CG worked for me.

We tested the CG at 88mm several times on a balance stand and by hand. It is perfect at 88mm.

For the first flight, I'm thinking of moving the CG forward just a touch. Somewhere between 82mm and 88mm by adding a bit of weight to the nose or by moving the battery forward if possible. This may change after the first flight or two.

Throws; the throws in the book struck me as low. However, erring on the side of caution I did not want to dismiss that the factory knows best for first flights. I programmed my throws on a three-way switch. From low to high this is what I have. Aileron 10/15/20 – Flap 25/45 Elevator 12/16/22 Rudder 17/21/30. These are bench set not flight tested at the time of this writing.

The receiver is programmed on a three-way switch with the following. Safe - auto leveling limited roll and pitch, Gyro – full control with flight stabilization, nothing – everything off. Worst case on the maiden the safe option should get me out of trouble allowing me to land the aircraft without incident. Let's hope I don't need it. Better safe than sorry. I believe in the use of "safe" when it comes to saving your aircraft from potential destruction. I do not believe you should fly in this mode all the time. That said the usefulness of the "safe" feature should not be dismissed as a crutch and not for real flyers. My two cents.

Wings – The wings have fork-style connectors designed to slide around a bolt that secures the wings to the fuselage. As a precaution and upon consultation, I added washers to both forks bonding the washers to the forks with epoxy. You will see the modification in the photo below. The side of the fuselage where the fork comes in had to be opened just a bit to accommodate the difference in size. A small flat file or hobby knife works for this.

Lettering – I had Callie Graphics (<https://callie-graphics.com/>) print me up a batch. Did not like the factory set. Callie had the file on hand from a previous print for past builders of the B. A. Eagle. It took me a while to get them lined up straight before sticking them down, but I did it. Some soapy air bubbles still evaporating but I think they will be gone in time. If you do not have a rubber squeegee for this type of work, get one it is a very useful tool and better than a credit card. Also, find the method that works best for you when applying vinyl lettering wet or dry. I use both methods depending on size, angle, and how many are going down at one time.

What to do with the windows. It would have been good if the factory painted the trim like the scale version. I am not a great painter when it comes to this kind of detail, so I decided to pinstripe the canopy with white automobile pin-striping tape I had on hand. One thing led to another and as you can see in the photo it came out pretty good.

I learned a ton with this build. Seriously addicting. Black Horse has a few models around this price point that have caught my eye. The Valiant first and don't be surprised if I'm back here another time writing about another Black Horse model.

You know that friend of mine who helped with the battery relocation, once said to me, I think you should build an ARF, I think you will learn a lot. Well, he was right. Now addicted and have three here in less than I year, I'm contemplating whether or not I need to come out of retirement to afford all those nice toys I want.



Remember – Keep the rubber/foam side down and the shiny side up, especially on landings.

Jay Z

President's Pilot Box: Gordon Collyer

- See my Board meeting discussion in the March CMB Newsletter.
- With better weather upon us, we have been contacted by several groups interested in our activities at the Lenn Airpark/Lenn Model Airpark.

On the morning of April 27th, students from Liberty High School technology classes will visit the Airpark for introductory buddy box flying and an introduction to UAV flying. Contact me if you will be able to assist.

Also, the Culpeper C-Stars organization that provides local outpatient pediatric physical, occupational, and speech therapy, has asked us to participate in their annual youth summer camp activities at Lenn Park. We will provide a short air show for the kids and then support some hand launched glider or rubber band airplane flying by the kids. The C-Stars activity will be one morning during the weeks of June 10-14 and July 15-19.

When the C-Stars schedule and plans are firmed up I'll be asking for volunteers with various different types of planes to come out and "show-off" for the kids and then hang around and help assemble and fly their planes.

- More on all that later.
- See you at the Club meeting Sunday, 14 April.

Gordon

Vice President's Pilot Box: Jay Zompanti

- See above.

Jay Z

Secretary's Pilot Box: Nic Burhans

- The 2024 Mowing Schedule has been sent to all Club members and posted on the Club website.
- The updated Club calendar has been sent to all Club members and posted on the Club website.

- Upcoming 2024 events:

April 14	Sunday	<u>CMB Club Meeting @ Lenn Model Airpark</u> <i>Club Fly Day #1, Pilot Training, and Flight Checks all day</i>	1:00 PM
April 20	Sat	1st Church 5K Run Lenn Model Airpark Will be Closed During the Run	6am-Noon
April 27	Sat	Liberty High School Buddy Boxing @ Lenn Model Airpark CD: Gordon Collyer	All Day
May 4	Sat	15th Lenn Park Wicked Bottom 5K Run Lenn Model Airpark Will be Closed During the Run	6am-Noon
June 15	Saturday	FARM Float Fly #1 @ Lake Ritchie, Bealeton VA CD: Nic Burhans npb6218@earthlink.net	9am-4pm
June 23	Sunday	<u>CMB Club Membership Meeting @ Lenn Model Airpark</u> <i>Club Fly Day #2, Pilot Training, and Flight Checks all day</i>	1:00 PM

- At the 2024 first quarter's Club meeting on Sunday, 14 April:
Lenn Model Airpark improvements will be discussed.

The dues increase proposal from the Board for years 2025 and beyond will be discussed at this meeting and voted on by the membership at the June meeting. (See Gordon's comments as outlined by him in the March CMB Newsletter's President's section.)

Remember to be SAFE *Nic*

Treasurer's Pilot Box: Nic Burhans

- As of 10 April, the Barnstormers presently have 50 members. (24 Regular members, 24 Senior members, 1 Junior member, 1 Associate member, and No Life members).
- All bills have been paid and the Club presently has a balance of \$4,929.19 in the general fund, \$822.16 in the runway fund, for a total of \$5,751.35.

Be Safe *Nic*

Safety Officer's Pilot Box: Ernie Padgette

- No Specific items this Month.

Ernie

Field Marshal's Pilot Box: Jay Zompanti

- No specific Club items this month.

Jay Z

Member at Large Pilot Box: Jay Langley

- No specific Club items this Month.

Jay L

Member at Large Pilot Box: Bill Pratt

- No specific Club items this Month.

Bill P

Member at Large Pilot Box: Bill Towne

- No specific Club items this Month.

Bill T

Web Master's Pilot Box: Dick Sutton

- No specific Club items this month.

Dick

“CMB Tips and Projects Jar”: All CMB Members

- **Using Fine-Tip Dry Erase Markers on Oracover / Ultracote Covering**

1. Choose the Right Marker:

When drawing lines for cutting, marking spots for drilling, or removing covering on your fuselage, horizontal or vertical stabilizer, opt for a **fine-tip dry-erase marker**. These markers have a precise point, making them a good choice for accurate markings.

2. Mark Carefully:

When building an ARF we often have to remove covering to glue two surfaces together. When marking the covering for removal, to install another surface, be precise. Use the **fine-tip dry-erase marker** to indicate the exact location of the cut needed. Remember to measure twice, cut once, and be sure to remove any leftover markings before gluing.

3. Remove Markings Before Gluing:

After you've marked the covering for removal and have made your cuts, **remove any leftover markings before** securing the two surfaces together with epoxy. A clean surface ensures better adhesion and a neater finish. You can wipe off the markings with a soft cloth and alcohol.

4. Keep Notes:

Since working with these coverings isn't an everyday task, consider keeping notes on your process. Document what works best for you, including temperature settings, techniques, and any challenges you encountered. These notes will be valuable for future projects.

Remember, patience and attention to detail are key when working with covering. Happy modeling!
Jay Zompanti

- Deans Connector Separation/Separator

The Deans Connector is a polarized moderately high amperage connection frequently used in DC circuits in RC. Probably most frequently, they are used to connect batteries to on board switches and power structures. But, due to their tight connection, and the relatively small size of the connector itself, they are a beast to separate. I have found a way to ease that process, since I am using Deans connectors in my Extra 330.

Here is a new set of connectors:



I modify the connector (at my/your own risk!) by drilling a pair of 1/16 holes in the ground side of the connector. Don't penetrate the copper pole:



I use this \$4 split ring plier from Harbor Freight. Though they don't show well in the picture, there are 2 points on the end of the tool. Put the points in the drilled holes, and squeeze the handle. The connections comes apart easily.



And now you don't need new deans, or to resolder the connector!
Lloyd Hinrichs

Member "From the Field" Anything Input Box:

- FYI #1:



Nic Burhans

- FYI #2

Two aviation events that the Fauquier - Warrenton Airport will be hosting:

The CAF B-17 and B-25 will be at the airport the week of 17-14 June 2024.

The IAC East Coast aerobatic competition is planned for 28-30 June 2024.

Lloyd Hinrichs

CMB CLUB 2024 OFFICERS		
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The CMB Newsletter is published monthly by the Culpeper Model Barnstormers, AMA charter #4894. It is forwarded to CMB members and to other clubs on an exchange basis. Articles related to all types of aviation are welcome. Opinions expressed in the newsletter articles are those of the individual author and do not necessarily reflect those of CMB Inc.

Publishing input deadline is the 2nd Tuesday of the month. Please forward all inputs (Pictures in jpg format) to:

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