

The Seminole Flyer

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Academy of Model
Aeronautics
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"The Seminole Flyer" is a publication of the Seminole Radio Control Club of Tallahassee, Florida

JULY 2008

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Letter from the Editor- Stephen Warmath

July? Already? It seems like it was just a few weeks ago that I was complaining about the '07 July heat. Maybe it was because I was spending a lot more time in the shop at night working on one of my planes or other hobby interests. Balancing day-to-day chores and "Honey Do" projects with our primary passion, model building and flying, is an ongoing challenge. Let's see...prune shrubs...or...install engine in new masterpiece? You know the drill. Time management is the key. Someone once asked Dave Platt how he was able to create such wonderful masterpieces and he responded, "Put at least an hour a day on it." He was talking about time management and persistence. Recognizing that other things have to be done around the house, if one can just keep it going while doing the other things in life that need to be done, success will follow. It kind of references the notion of "How does one eat an elephant? One bite at a time." This comes to mind as I finish a significant remodeling job at my house. Others I've talked to are also engaged in some major projects, like building whole houses and other renovations, yet setting aside time to pursue our passion. This hobby is what grounds us and is what keeps us sane and happy. Always looking for neat new projects in this month's **Sneak Peek** is a look at a sleek electric ducted fan **Executive Jet**. Is that plane of yours nervous as a filly in the starting gate at Dublin Downes? Calm those **Servo Jitters** with some helpful tips this month.

Happy Building and Flying- Steve :o)

Chief Pilot- Shannon Black

This has been a fairly uneventful month at our field. We've had no big events, and no demo's. What this means is that we have had plenty of time for relaxing flying. I know that it is hard to relax with temperatures nearing 100' each afternoon, but everyone seems willing to try and brave the heat. We also continue to get several guests or new members each weekend. Please continue and make these people feel welcome. Lets all remember how hesitant or unsure that we felt on our first trip to the Seminole RC field.

Congratulations go out to John Hall for sweeping last months Fun Fly events. This month, the competition will be on July 5th. Come out and fly or just show your support to fellow club members.

Until next month, I'll see ya at the field.

Club Calendar

July

- 3- Club Meeting at the Field 7:00 pm
- 5- Fun Fly Series- #4

August

- 7- Club Meeting at the Field 7:00 pm
- 9- Fun Fly Series- #5

September

- 4- Club Meeting at the Field 7:00 pm
- 6- Fun Fly Series- #6

October

- 2- Club Meeting at Grace Lutheran Church. 7:30 pm.
- 4- Fun Fly Series- #7
- 11 Fall Fly-In

November

- 6- Club Meeting at Grace Lutheran Church. 7:30 pm.
- 8- Fun Fly Series- #8

December

- 4- Club Meeting at Grace Lutheran Church. 7:30 pm.
- 6- Warbird Fly-In



Chief Copilot- Mike Atkinson

Flight Demonstration Update:

By: Michael Atkinson

April and May were busy months for events showcasing our wide variety of aircraft. The air show season began April 22, at Medart Elementary School in Wakulla County. We flew two shows of 45 minutes each. Those participating included John Hall, Geoff Lawrence, Bill Atkinson, and me. The kids were able to watch aerobatic helicopter and airplane demonstration, flying lawnmower and racecar, as well as the ever-popular limbo competition. Most of the aircraft made it through the shows with only a couple of minor accidents reported.

Frank Bastos joined us on April 25, for our first ever demonstration at Florida State University Elementary School. Geoff Lawrence was responsible for securing the show date and coordinated the event. We had a great time and the kids were very appreciative. The demonstration area provided a great space for flying, predominantly because of the smooth runway surface of the soccer field.

April 26th was the date of the South Woodstock Festival. For the second year, the club provided continuous flying throughout the event. In addition to our usual group, Jay Leudecke and Shannon Black were among others who joined in the fun. The highlight of the day was seeing Shannon safely land his giant Pitts on a baseball field..... Thank goodness for strong headwinds!

The next two Tuesdays, April 29th and May 6th, we completed our Wakulla County shows at Shadeville Elementary and Crawfordville Elementary. Maybe we were just getting tired, but our aircraft attrition rate increased exponentially during these two shows. Of course, the kids enjoyed the crashes much more than the regular flying. Nonetheless, we still had a great time.

Finally, John Hall and I were able to provide a few hours of demonstration at the annual "Fellowship in the Field" event near Monticello. John flew flawlessly, but my Kadet Senior did suffer a loss of landing gear when I struck a cornrow on landing approach. The event coordinators were very appreciative and acknowledged the club's participation during announcements at the lunch break.

Thanks to all who chipped in during these events. To everyone else, even if you don't fly in the event, you should try and make it to some of the school shows. The reaction of the kids really makes all the efforts worthwhile.

Upcoming AMA Regional Events

4th of July Picnic

FL
7/04/08 - Jacksonville, FL (C-Restricted to Gateway Club Members) 4th of July Picnic. Site: Lannie Rd Flying Field. Patrick Lanfri CD, 4743 Sappho Ave Jacksonville FL 32205 PH:941-387-2202 mail: lanpc@comcast.net. 4th of July picnic for Gateway R/C Club members and their family/guest. Membership accepted at event \$38. Sponsor: GATEWAY R/C CLUB

Dixie Nats

FL
7/05/08-7/06/08 - Palm Bay, FL (AA) Dixie Nats for 102-103, 104-105, 102-103C, 104-105C, 120, 122, 150, 151, 152, 153, 154, 155, 160, 161(JSO), 101, 101C, 124, 129, 140, 142(J)(SO). Site: Club Site. Joe Clawson CD, 401 Almansa Palm Bay FL 32907 PH: 321-984-8718 email: claw3132@bellsouth.net. All National cup events. Sponsor: FLORIDA MODELERS ASSOCIATION

Summer Sizzler

FL
7/12/08-7/13/08 - Palmetto, FL (C) Summer Sizzler. Site: Club Field. Raymond Thompson CD, PH:941-723-9381 email: rht430@msn.com. Visit www.manateerc.com. 2 fun events each day at 11am. Sat: timed touch and goes with spot landing, Bomb drop with your plane, Sun: carrier landing, timed loop and rolls. Concession on site, clean rest rooms, some RV parking with hook ups, make reservations. Open flying before and after events. \$10 landing fee. Sponsor: MANATEE COUNTY RC

Peach State Champs

GA
7/13/08 - Whitesburg, GA (A) Peach State Champs for Cat III 101, 102-103, 104-105, 101C, 102-103C, 104-105C, 124, 140, 142, 160, 161, 162, 501, 503(JSO). Site: NG Turf Farm. Whit Russell CD, 1375 Ridgefield Dr Roswell GA 30075 PH:678-242-8655 email: chasrussell@peoplepc.com. Sponsor: TTOMA

Mid Georgia Jet Rally

GA
7/19/08-7/20/08 - Andersonville, GA (C) Mid Georgia Jet Rally. Site: Hodges Hobbies. Keith Lindsay CD, 3873 Union Church Rd Fort Valley GA 31030 PH:866-924-9505 email: pigtown@tk-net.com. Visit www.hodgeshobbies.com. Open flying for all ducted and electric fans, prop, turbine powered jet models. All AMA members welcome. Turbine

waiver required. No noise, radio frequency, or turbine operation restrictions. Large 1000 x 200 foot smooth grass runway. Food concessions available

Chief Treasurer- Sam Varn

Editor's Note: The Treasurer's report is published for Members only. The public version of the Newsletter does not include account balances.

Petty cash - **\$0.00** Premier checking - **\$0.00** Capital City checking - **\$0.00**
Savings - **\$0.00** CD - **\$0.00**
Total funds - **\$0.00**

ALL MEMBERSHIPS EXPIRE on June 30. Please renew NOW so I don't have to pester everyone. I hope to send out email notices very, very soon. Please watch for them and you can pay us using PayPal again this year. It just doesn't get any easier than that!

That's all for now.
Sam

Chief Scribe- Steve Warmath

The June meeting was called to order at 7:05 pm Thursday June 5th, 2008.
A request for a motion to accept the Secretary's May meeting minutes was made, seconded and passed.

Visitors/ New Members- Michael Hupp, new member joins us from Orlando.

Treasurer's Report- Sam noted that 10 members had renewed their membership by PayPal. E-mail notices had been sent out to members with a PayPal link. Several members said they had not received it. He said he thought there might be a problem and would resend the e-mails to everyone. Dues are due by the end of the month. Of PayPal payments totaling \$540.00, the service fee was only \$18.36. \$400-\$500 in dues was collected at the meeting. Sam read off the updated numbers from our accounts. The Club made approximately \$1,000.00 on the Flying for a Cure Event. Good job by everyone. Sam said he needed a motion to send the proceeds check to the American Cancer Society. A motion was made to accept the Treasurer's report, seconded and passed. A motion was made to send a check to ACS, seconded and passed.

Old Business-

- Jeff Owens reported he had not purged the web site yet but did add a link to the on-line photo albums set up by David Mills. David added that the album site would accommodate up to 950 Mb. Pictures can be downloaded and each album was identified with a caption. Shannon thanked David for setting up the pictures online.
- Shannon reported that Chris Bailey was leaving the Club and thanked Mike Atkinson for stepping into the Vice President position.
- Sam had not made any inquiries for a memorial plaque mentioned at the May meeting but would have something for the next meeting.
- The access road had not been graded. Mike Atkinson would call the County to request the work.
- Don reported a correction to the costs associated with bringing power to the field. The original quote was for a residential service. A commercial service would be required for the club at \$5,000.00 to get it to the gate. With some discussion it was decided that the cost was outside the resources the club would be willing to do.
- Frank Bastos thanked all that turned out for the Flying for a Cure Event. The event had a good crowd, good reviews and more money raised this year. Shannon added thanks to Frank for the raffle prizes donated by HobbyTown.

New Business-

- Frank also suggested scheduling a Fall Fly-in on October 11th and a Warbird Fly-in December 6. No objections were raised.
- Bob Burke suggested that the Club send a thank you letter to the pilots who came down from Columbus, GA to fly in the FFC event. Shannon or Mike will send a note to them. Theo said he had a prototype letter he could give to Shannon to use.
- A discussion was started about the possibility of acquiring a generator for the field. Chris Ferrell said he would see what he could price at Home Depot and look at other options. He would report back at the next meeting. If the club got a generator, it would be kept in the container with a vent to the outside for the exhaust.
- Mike announced that T-shirts and Hats were available for sale. T-shirts are \$15.00, hats are \$10.00 and last year's FFC event's T-shirts are \$5.00.
- Gordie Meade said he was going to put water seal on the new fencing to protect it. Motion was made, seconded and passed to authorize him to buy the material.
- David Mills noted he has a contact for embroidering shirts for \$8.50 if anyone is interested.

Announcements- The two Fun Fly Events (series #3) were drawn from a hat. They will be:

1. 15cc of fuel into an empty tank. Longest to stay airborne wins. Loops would add 5 seconds to flight time
2. Blindfold taxi around an obstacle course with a caller assistant. Shortest time around the course wins.

Gordie Meade will be Contest Director.

With no additional business, the meeting was adjourned and flying resumed at 7:50 pm.

SNEAK PEEK

"Executive Jet" Twin Ducted Fan ARF Business Jet

Exceptionally well engineered jet, flies smooth and fast - two 66mm fans included.

Mgf: **SFM**

"Executive Jet" Twin Ducted Fan ARF Business Jet

Overview:

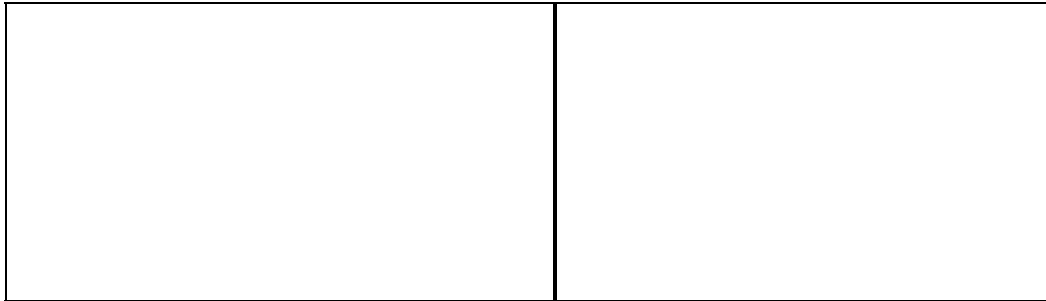
Molded bead foam construction. Fuselage comes with the two 66mm fans pre-installed, ready for the motors and the foam engine nacelles. The wings are reinforced with carbon tubes and have molded recesses for aileron servos; wing tips are made of wood and pre-covered.

Molded pockets with plywood mounting blocks for the installation of the landing gear are pre-installed in the wings and accept the included fixed gear or the optional retract gear. Fuselage has the mount for the steerable nose gear pre-installed; just screw the fixed steerable gear in place.

The ailerons, elevator and rudder are made of balsa and covered with heat-shrink film. They are pre-



installed and the hinges are pre-pinned for safety. The fuselage has wooden servo mounts and battery tray pre-installed.



Additional Resources:

Jet accelerates quickly and easily takes off from a smooth surface/runway with a strong climb rate. Jet can be hand launched and will belly land easily, without damage when the landing gear is removed. Plastic covers are provided to cover the landing gear openings if you do not install the landing gear. Speed is impressive even with the fixed gear. Flight is smooth and solid; the stall is at a very low speed and is not severe. The glide is amazing; the setup for a landing needs a long approach or you will glide right on by. Flight times with the two 1800 mAh packs in parallel are about 7-10 minutes of varied flying.

Assembly is easy and takes about 4-6 hours for the fixed gear version, and about an hour or two more for the retracts. For 4-channels: Aileron (2 servos), Elevator, Rudder/Nose steering, and Throttle. A 5th channel is required if you wish to add the retractable landing gear.

Needed to complete:

- Two 12-inch servo extension wires
- One Y-connector

Specifications:

Wing Span: -47 in.

Wing Area: -370 sq. in.

Length:-53.25 in.

Weight:-48 oz.

Wing Loading: -18.3 oz./sq. ft.

Recommended Batteries: -Two 3S-1800mAh LiPo

Recommended Motors: -Two 3500Kv Brushless Outrunners

Recommended ESC: -Two 30A

Servo Jitters

Do you get weak in the knees when you are about to launch your dream creation and see one or more of the surfaces glitching wildly? Have you had to resort to having someone else launch your plane because the glitching seems worse when you are next to the plane? With the advent of micro servos, it has become increasing more popular to embed servos in the wing or tail to eliminate long or complicated mechanical linkages. High-performance designs demand such configurations, which may use up to four servos in the wing alone.

Electrical connections from the receiver to a wing- or boom-mounted servo can conveniently replace equivalent mechanical linkages but a new set of problems may appear in the form of electrical noise. To

understand this phenomenon, you must first know a little theory on servo operation. Modern servos require three wires for operation, which are: power (+4.8 volts), ground, and signal. Although the power and ground leads are self-explanatory, the signal lead may not be as evident.

All servos whether connected to AM, FM, or PCM receivers are positioned by issuing a positive pulse from the receiver to the servo whose width determines the servo arm/wheel position. Typically, a pulse width of 1.5 milliseconds (that's 1 1/2 thousandth of a second) will center the servo, a pulse width of 0.8 milliseconds will rotate the servo to one extreme and a pulse of 2.2 milliseconds will rotate the servo to the other extreme. The resolution or granularity of servo movement can be dependent on the make and type of servo. Servos also have a characteristic called "dead band" which is the amount the width of the pulse may change before the servo will actually try to move to the new position.

It is desirable to have a certain amount of dead band or else the servo will always be attempting to align itself with very minute changes in the pulse width which can result in buzzing, chattering, and higher than normal current consumption.

When servos are located in the wing or tail boom, they must be located further away from the receiver, which generally means 12" to 36" extensions. These extensions seem innocent and simple enough that little thought is ever devoted to them, but these extensions can be the source of servo jitters and potential loss of control.

Extension wires can cause two problems:

- First the wires must be of sufficient gauge to carry adequate current to the servos, especially nearing a stalled condition
- Second, the an extension may act as a crude antenna that can pickup RF (the Radio Frequency signal that is emanating from your antenna or the pilot's transmitter that may be next to you) and feed it into your servos. Both of these situations can cause servo glitches and jitters.

Now that we have identified the problem, how do we solve it? Let's attack the first problem.

How much current will a servo draw when stalled? Well, that depends again on the servo, but it can exceed 100 milliamps. I would recommend using 26-gauge wire as a minimum with 24 gauge preferred. For reasons that are too lengthy to explain in this article, another preferable quality to have in your extension cable is a continuous twist throughout the cable length. This can be done quite easily.

- Cut three wires approximately 1 1/2 times longer than what you require.
- Hold the ends of the three wires together and wrap a piece of tape securely around all three wires.
- Anchor the taped end of the three wires to a doorknob or chair leg and insert the other three ends into the chuck of a variable-speed drill.
- Carefully run the drill until a tight twist is formed in the cable. It is normal for the cable to untwist slightly when it is released. Heating the wires slightly with a heat gun will help set the twist.
- As a reminder, use colors that make sense (i.e., red = +4.8, white = signal, black = ground). This should help avoid a costly wiring mistake.

The solution to the second problem may not be quite as clear. Logically, we need some way of eliminating or filtering out the high-frequency RF noise from the signal line but still allowing the positioning pulse to pass without being altered or else our servo positioning will be destroyed. We can do this by using a passive component - a capacitor. In this application, the capacitor will appear as a direct short or "shunt" to the high-frequency noise but look like an open circuit to the low frequency (remember our 1.5 millisecond pulse?).

Not any capacitor will do! It must be of the proper value. A little math and collecting of empirical data (testing different values) indicate that a small monolithic or ceramic disk capacitor of 150 pf to .001 uf (pf=Pico farad,

uf=microfarad) will do the trick. Solder the capacitor as close to the servo as possible and connect it from the signal lead to the ground lead. *Remember to use heat-shrink tubing to avoid short circuits.*

Feeding the servo leads through a ferrite bead causes the servo lead to act as a small RF choke at high (RF) frequencies. In other words, this is another way to attenuate the superimposed RF noise as done with a capacitor above. I believe Critter Bits sells a set of "clamp on" ferrites. Other sources include Amidon Associates, Digi-Key, J.W. Miller, etc.

The capacitors are generally cheaper and easier to acquire. At your closest Radio Shack, look for P/N 272-125 (470pf) or P/N 272-126 (.001uf). They'll run about \$0.25 each. Remember, solder the capacitor as close as possible to the servo and place across the signal and ground lead.

I have never had a case of the jitters that I couldn't solve by following the guidelines that I have presented. Good luck!

Tom Hoopes, [oakley "at" xmission.com](mailto:oakley@xmission.com)



Now that's Trusting a Buddy.

Seminole Radio Control Club Tallahassee, FL

AMA Charter #216, 1969-2008

SRCC Officers

President – **Shannon Black**
Vice President – **Mike Atkinson**
Secretary/ Newsletter Editor – **Stephen Warmath**
Treasurer - **Sam Varn**
Field Marshall – **Joe Satterwhite**
Field Safety Officer- **Gordie Meade**

Field Hours

12 Noon till Dark- These hours apply to **all** aircraft, gas **and** electric.

Training Notes

To schedule a training time contact Mike Atkinson.

Flight Instructors

Mike Atkinson- Primary/ Advanced Flight Instructor (Coordinator)	926-4692
Geoff Lawrence- Primary/ Advanced Flight Instructor	942-9807
John Hall- Primary/ Advanced Helicopter Flight Instructor	893-6457
Jay Leudecke- Primary/ Advanced Helicopter Flight Instructor	508-7135
Jeff Owens- Ground School/ Airworthiness Instructor (Fixed Wing)	894-2504
Frank Bastos- Hobby Town Flight Demonstrator	671-2030

Club Meeting Location and Time

October- March: The regular club meetings are held on the first Thursday of each month at **7:30 PM** at the Grace Lutheran Church on Miccosukee Rd. Head out Miccosukee Rd., cross Capital Circle NE, and the entrance will be the first one on your right. Once you park, follow the sidewalk around the left side of the building and go down the hill. We meet in a room on the first level.

April- September: The regular club meetings are held on the first Thursday of each month at **7:00 PM** at the Flying Field. The Club offers food and drinks for a small charge.

Newsletter Submissions- Submissions are requested to be in M.S. Word format or via e-mail text. Photos should be in .jpg or .tif format. Vector art accepted in Corel, Illustrator and AUTOCAD format. We will, however, accept anything to make it easier for those who wish to contribute. Submissions are due no later than the 23rd of the month. Send your submissions to ssw@nettally.com or by phone, Steve Warmath at 509-0672.

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ap-o-gee (n) - The farthest or highest point; the apex.

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