The AVIATOR

The Official Newsletter of the **Frederick** Model Aircraft Club

March 2006

Whether we take on a second airfield is up to you. Cast your vote at the next club meeting March 20.

PRESIDENT'S PODIUM

Recall from last month I discussed the prospects for a new field. The upcoming meeting on March 20 is absolutely critical for this endeavor. Assuming the club approves the new field, we're going to have a lot to discuss. I hope to see everyone there.

I want to express my thanks to everyone that has continued to support the club in one way or another through the past several months. When I first started flying two years ago, I simply thought of the club as a place to safely fly. I thought it would be easy to pay my dues and sit back. Little did I know how wrong I was. Our club has come to depend on several individuals that continue to work behind the scenes to keep things working. First and foremost are those members that diligently continue to maintain our field – mowing, repairing pilot stations, keeping up the appearance, etc. George, Bill, Carl (sorry if I missed anyone) each deserve a big thanks from each of us. If you run into them at the field, please express your appreciation for the efforts they make. Second are those that are serving or have served as board members and work to keep the club moving in the right direction. These dedicated individuals are essential in making sure the club's business gets done. Third are those that continue to actively participate in club activities, such as the training program and fun flies. By actively participating, they ensure the continued vitality of our club.

What am I getting at? If you are one of the members that just wants to fly and forget the rest, like I was, that's OK. We recognize that modern day schedules can be demanding. We will continue to welcome you and others like you that want to join. But if you can find time to contribute more, you'll find another level of enjoyment in this hobby we're organized to promote.

For those that are doing more than just paying dues and flying, you have my heartfelt gratitude, and I hope everyone takes a minute when they run into you to express their thanks.

Finally, let me express special thanks to Henry Weeks and Ken Sechler. For personal reasons that I fully understand, they will not be helping this year with our club training program. Bob Pitt, Dave Kalins, Bart Schmidt, Ron Grimm, and Rich Ossana have all stepped up to help with training (some as ground crew, some as instructors) when they can.

See you at the meeting!

Brad Davy

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IMPORTANT: If you have changed your email address in the past six months, please check with Bart Schmidt to make sure he has your current email address for his membership list.

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NOTE: THE NEXT CLUB MEETING WILL BE MARCH 20 AT THE CHURCH, BRADDOCK HEIGHTS, AT 7:30 PM.

Club Officers

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Ron Grim

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Vivian Borton

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Bill Mackenzie Jr

Membership Secretary
Bart Schmidt

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Adam Strausner
Dave Kalins

Additional Contacts

Field Marshal
Carl Angleberger

Safety Officer
Carl Angleberger

Flight Instruction Coordinator

Instructors
(IP=AMA Intro Pilot)

IN THIS ISSUE:

FMAC BOARD MEETING
March 1, 2006

Minutes for December Meeting read and approved.

Old Business.

New Field A few changes were made to the lease agreement. There can't be any flying when hay is being made, when the field is having chemicals applied to maintain AG requirements.

Volunteers will be needed to get the field ready for summer flying. $500.00 will be needed for the start up fund. All of this will be discussed at the March membership meeting.

New Business

The pilot stations at Toms Creek Field will need repair for this season.
Bill Mackinzie will make these repairs

The May Fun Fly and Youth Day will be May 20, 2006 at Toms Creek Field.
Brad will send out letters to schools news papers and scouts.

The July 8, 2006 fun fly place will be decided at a latter date.

It was decided to only send the News Letter to the current members with a membership roster, after the new field is secured we will send the news letter to past member list. Approved. A notice will be put in the news letter about a member to member SWAP at the membership meetings.

Adam brought in the new trainer aircraft for Butch.
Brad will need help in the training program

Submitted by Bill Mackinzie

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2006 Club Officers:
Phone Numbers & Email Addresses

President:	**Brad Davy**	**(301) 662-7274**	**bdavy92960@msn.com**
Vice-President:	**Ronald Grimm**	**(301) 624-4084**	**rongrimm@adelphia.net**
Membership Secy:	**Barton Schmidt**	**(717) 630-8301**	**blackbarton@juno.com**
Recording Secy:	**Bill Mackinzie Jr**	**(410) 756-6392**	**william.mackenzie@verizon.net**
Treasurer	**Vivian Borton**	**(301) 694-8131**	**dcborton@adelphia.net**

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Editor's Note: When submitting material for inclusion in this Newsletter, please make it is in a Word file attached to an email, not the email text. Also, please limit the font style to New Times Roman, if possible, and to a font size of 12 or 14 …. nothing larger please.

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To be added to our e-Newsletter notification list Send an e-mail to: webmaster@frederickmodelaircraftclub.org
Please state your name and club affiliation, if any

From the Middle Point RC Flyers, Murfreesboro TN
Windy Weather Flying
by Clay Ramskill

All too often, on an otherwise nice but windy day, folks just don't fly. Obviously, for a beginner, that's common sense—but for someone who has some experience, the wind can be a challenge that adds some spice to flying.

While it's easy to see that experience level has a lot to do with how much wind is too much, it may not be quite as apparent that the type of model you're flying also can have a great effect on your ability to handle winds.

Let's go through some airplane design features to see which ones give us the best flying characteristics to handle winds and the resulting turbulence.

Size: In general, the larger the airplane, the better it will handle winds of all kinds; large models don't "flop around" as much!

Dihedral: The more dihedral in a model's wings, the more they are going to be affected by cross-wind gusts; it is hard to keep the wings level, therefore lineup to the runway is difficult in a cross-wind situation.

Wing Loading: The higher the wing loading, the less an airplane will be affected when hit with a gust.

Aspect Ratio: Lower aspect ratio (stubby) wings will be less bothered by gusts; there is less leverage for side forces to upset the airplane, and lower aspect ratio wings have a greater tolerance to changes in angle of attack caused by gusts.

Power: Having the power to overcome the force of wind is necessary. The same thing goes when you get into a sticky situation.

Lateral Control: Ailerons are beneficial in a crosswind landing and takeoff phases. The ability to dip a wing into a crosswind without changing heading is essential, as is the ability to rudder the airplane parallel to the runway heading while keeping wings level with aileron while landing.

Landing Gear: Models with tricycle landing gear are easier to land and take off in a crosswind than tail draggers; in addition, the wider the spread on the main gear, the better.

Maneuverability: This one is a bit harder to quantify. You want a model with stability, yet you do need good maneuverability to cope with gusts. Therefore, you want a model that is stable, yet responsive.

Wing Mounting: Generally, a low-wing airplane will handle crosswinds better. This is because the center of gravity of the airplane is nearer, in a vertical sense, to the aerodynamic center of the wing. Therefore, a side gust does not roll the model as easily. Moreover, by mounting the main landing gear on that low-wing model, they can be spread wider.

It's unfortunate that almost every item above is in direct opposition to the characteristics found in many popular trainers. The main exception is the requirement for tricycle landing gear. But even with trainers, there are differences. Compare a Seniorita with the Kadet Mk2. While the Seniorita may be a bit slower and a bit easier to fly, the Kadet, with its ailerons, higher wing loading, lower aspect ratio, and lower dihedral, is a far better airplane when flying in windy conditions. Going a step further with the same kit manufacturer, the Cougar (.40)/Cobra (.60 size) kits embody *all* the right characteristics for windy flying.

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In closing, I offer Confucius' only known saying about RC flying: "To learn to fly in wind, one must fly in wind!"

From the Prop Masters RC Aero Club, Downers Grove IL
Preflight Inspection
by Ivan Cankov

Preflight training teaches the student how to inspect and prepare his model for flight. Like full-scale airplanes, a model airplane flight does not start with takeoff and end with landing. It starts with preflight inspection and ends with inspecting the airplane for any damage because of hard landings or suspicious behavior during flight. As are full-scale airplanes, our model airplanes are complex machines. To ensure a successful flight we must make sure that all components are in proper working order.

We are in this hobby mainly for the fun, but we all crash—we just don't know when. Even trainer models flown with an instructor using a buddy box will crash. The causes can be component failure or pilot error; yes, instructors err too.

To keep it fun we have to follow safety rules—both general safety rules as well as specific rules that apply to our model aircraft field. Students must learn to follow these rules to ensure that all pilots and spectators are safe and property damage, if any, is limited to our model airplanes only. Safety is of concern to everybody—all pilots at the field whether club members or not, flying or not, spectators, and people just passing by. All model-aircraft pilots should enforce the rules and make bystanders aware of potential hazard areas around the field.

Inspection of a new airplane starts with checking the integrity of the main glue joints and all screws. A student's model comes to the field already assembled so it's not possible to thoroughly check whether it is perfectly put together—whether it's scratch-built, built from a kit, ARF, or RTF. Despite this, an instructor is able to check the components that are likely to fail under stress during flight. These likely failures are the wing joint, tail feathers, control surfaces, landing gear, engine mount, and firewall.

Models are not considered airworthy if there are any problems found. Remember, you're a winner when you get your airplane(s) home in one piece even if you haven't flown them. Any problem(s) found need to be fixed and another inspection performed. Some of the problems can be fixed right at the field. Others require more time and the convenience of a workshop.

Test the wings by placing the center flat on your chest and pulling the wingtips with a reasonable force. Performed the test in both directions—top and bottom of the wing. The joint should not crack. Some ARF and RTF manuals state to use tape or small plastic straps and screws to hold the wing halves together. My advice is to glue the wing halves together using 30-minute epoxy unless the wing is specifically designed to use a different method, such as the NexSTAR wing.

Pulling the tail feathers up, down, and sideways should not move them. Again some ARFs and RTFs use studs glued in the fin and nuts (with plastic inserts to prevent them from unscrewing) to bolt the tail feathers to the fuselage. It's somewhat handy for transportation and storage but they are also more likely to fail, so my advice here is to glue them in place while still using the nuts.

Pulling the control surfaces—ailerons, elevator, and rudder (and flaps on some airplanes)—is the easiest way to check them. They should stay in place. Inspect the hinge gap; is it too big? If so, seal it. The easiest method I've found is to use regular Scotch tape. I always carry a roll in my flight box for repairs at the field (including

repairing holes in the covering caused by landing in the weeds).

Check all linkages: there should be no play or slop. Play or slop in the linkages as well as big hinge gaps can cause flutter that can in turn destroy the wing, stabilizer, or fin to which it is attached. Although trainers have smaller control surfaces, moderate speeds of operation, and are not very prone to flutter, it can still happen—usually after the beginner pilot has soloed and starts performing aerobatic maneuvers with the trainer model at higher speeds. It happened to me; I lost my trainer due to aileron flutter.

Check all screws. I put Loctite on all metal-to-metal screws—from landing gear to fuselage. Don't tighten any engine screws if you are not familiar with the particular engine and its carburetor. Some of these should not be tight at all while others are torque-and-sequence sensitive.

All wood screws should be tight, too. Use thin cyanoacrylate glue to harden the holes. First, run the screw in the hole so it taps it, then remove the screw and put a drop of thin cyanoacrylate glue in the hole. Wait for the cyanoacrylate glue to fully cure and reassemble the part. These include, but are not limited to, servo screws—the ones that hold the servos to the servo tray—hatches, tail landing gear (most high-wing trainers are not tail-draggers but use tricycle landing gear and don't have a tail wheel), main landing gear, etc.

Most RTFs come with already assembled engines and landing gear. Usually they are not properly tightened and sometimes they become unscrewed and fall in the box. The result is a model that arrives at the field with screws missing or not tightened. Beginners are not knowledgeable enough to notice or even know how many screws should be used, and are mislead by the Ready-To-Fly advertisement of the product they just acquired.

Check the propeller. Is it the proper size for that particular airplane/engine combo? Is it suitable for training? Small diameter high-pitch propellers provide a lot of speed that is not needed for a trainer model. A typical propeller for a .40-.46 size engine on a trainer plane is 11 x 5.

Next check to see if the propeller is properly attached to the engine crankshaft. The propeller nut should be tight—very tight. The modern engines have hardened crankshafts and use hardened propeller nuts, so don't be afraid to tighten it. With an electric starter, from a safety and ease point of view, a spinner or spinner nut should be used. It should be tight, too. If the screws holding the spinner cone to the backplate are not tight, the cone will start to vibrate when applying the electric starter and shatter if it is a plastic one.

Check the center of gravity (CG) of the airplane with an empty tank. An improperly balanced airplane is hard to impossible to control. If done at the field and it's windy, try to find a place where the wind will not affect the airplane's attitude. Using your fingers is not the most precise method but it works. For most trainers the CG is located at the main spar. Check the CG with the fuel tank empty. When it's full, the CG is slightly forward. It's easier to fly a slightly nose-heavy airplane than a tail-heavy one. Most of the fuel is gone by the end of the flight, so the CG goes back to where it was set up with an empty tank.

Check the direction and the amount of control surface deflection. Do not exceed the manufacturer recommended values—they make the model more sensitive to the controls. That, combined with the inherent tendency of beginners to over control the airplane, will lead to aggravation from the student. He or she will be constantly fighting the airplane.

Do a thorough range check with the transmitter antenna fully collapsed and the engine running at idle, half, and full throttle. You can do it while breaking the engine in (if the engine is new). The servos should not twitch when you walk up to 30 paces (60 feet) away from the airplane. Twitching servos might be caused by low battery voltage for the receiver and/or transmitter pack. (Were they charged overnight?)

Break in the engine. ABC/ABN engines normally take one to two tanks before they can run reliably. Ringed engines take longer. Run the engines on the rich side of the needle valve, especially ringed engines. The airplane is ready to fly when the engine can idle and transition reliably.
tank of fuel through it. After that, if its performance satisfies an experienced pilot, the engine can take an airplane in the air. Keep in mind that the engine will continue to break in until it burns a gallon or two of fuel.

Frederick Model Aircraft Club, Inc.

2006 Membership Renewal and Application

Name: _____ ☐ Renewal ☐ New
Member Since:_____

Address: _____ **City:** _____

ST: _____ **ZIP:** _____ **Phone: (H) (_____)_____-_____ (W) (_____)_____-_____**

Date of Birth: ____/____/____ **AMA#:** _____ **(attach 2006 Copy)**

e-Mail:_____ **Radio Channels Used:** _____

How would you like to receive our monthly Newsletter?Print from Website www.frederickmodelaircraftclub.org
or **US Mail**

All members are expected to help with club activities. What areas would you like to help with?

__Training/Help with training __Ground Crew/Maintenance __ Programs and Presentations
__Fund Raisers __Flea Market __Wings of Freedom Air show __Help Organizing/Run Events
__Fun Fly's __Other _____

Membership Fees	**January 1, 2006 to December 31, 2006**	**Amount**
✈	Adult Membership: - **$50.00**, Adult Spouse (2nd adult in household) - **$35.00**	_____
✈	Senior Members 60 and over: - **$40.00** Junior Members 17 or under: - **$5.00**	_____
✈	New Member Application Fee: - Same as above, plus **$10.00** Initiation Fee	_____
✈	All applicants from July 2 – Nov. 1 pay half dues	_____
✈	From Nov.1 until years end- pay full dues which will be applied to succeeding year	_____
✈	Donation to FMAC (optional) ----- ----- -----	_____
	Total	_____

ALL renewals for the current year are due before March 1st. Renewals received after that date are considered new and the applicant will have to be voted in and pay the $10.00 Initiation Fee.

Conditions of Membership

I hereby agree to comply with the current Academy of Model Aeronautics' (AMA) Safety Code(s) and Frederick Model Airplane Club, Inc. (FMAC) Rules and Regulations. I also agree that I will comply with all changes and modifications that may be made to the AMA Safety Codes and the FMAC Rules and Regulations. I understand that my failure to comply with these commitments may result in failure of coverage for any claims of damages resulting from noncompliance and expulsion from FMAC including rights to fly at the FMAC flying fields. I am aware that building and flying model aircraft presents hazards and I exempt and relieve FMAC, it's officers, contest directors, site sponsors and the AMA from all current and future liability for personal injury, property damage, or wrongful death caused by negligence or otherwise.

Applicant: _____ Date: __/___/___

Legal Guardian if under 18: _____ Date: __/___/___

Mail completed application with your current AMA membership information to:
FMAC Membership – c/o Bart Schmidt 101 Linden Ave., Hanover PA 17331
Makes checks payable to "Frederick Model Aircraft Club" or "FMAC"

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UPCOMING EVENTS 2006

January	HAPPY NEW YEAR! Jan 1st: New Years Day - FREEZE FLY - was CANCELED DUE TO MUDDY CONDITIONS AT THE FLYING FIELD. Jan 16th: Club Meeting, Church - 7:30pm Jan 21st: NVRC Snow Fly 2006
February	Feb 11th: Flea Market - Westminster Aero Modelers Feb 18th: SWAP Meet - Valley R/C Flying Club - see AMA mag. for details
March	Mar 20: Club Meeting, Church—7:30 Mar 25th: NVRC Auction
April	Apr 8th: Spring Cleaning @ Tom's Creek, starting at 9:00am
May	May 17th thru 20th - Joe Nall Giant Scale (IMAA) at Triple Tree
June	Jun 24th: NVRC "Biplane Fun Fly "
July	Jul 16th: NVRC "Big Bird Fly In at Arcola " Jul 22nd: Loudoun County Aeromodelers Assn 7th Annual Electric Fly In
August	
September	Sept 10th: Bealton, VA - Airshow and DCRC Model Airplanes Sept 23rd & 24th: NVRC Aerobatics/Pattern Contest
October	Oct 15th: NVRC Auction, Vienna Community Center
November	Nov 4th: NVRC "Toys For Tots Fun Fly "
December	

This is NOT RECOMMENDED practice, full-size or scale!
[photos courtesy of jbandkitty@aol.com and Milt P.]

The Aviator

Don Borton, Editor
Frederick Model Aircraft Club
1339 Butterfly Lane
Frederick, MD 21703

Our Newsletter has been beautifully duplicated and stapled courtesy of Cam and Bill Louden at:

FMAC is now flying at Toms Creek, Emmitsburg

CALL ONE OF THE BOARD MEMBERS FOR DIRECTIONS TO TOMS CREEK

Website—http://www.frederickmodelaircraftclub.org

www.Frederick Model Aircraft Club.org
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