

BEND AERO MODELERS



FLIGHT REPORT

OCTOBER 2013

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On the last Organized Park Flying Day of the year, BAM flight instructors James Fredricks and Jason Westlind worked with new member Jerry Cartwright on James' trainer, the Apprentice. Jerry is brand new to the hobby but has already bought two airplanes and a flight simulator. He has been working with Jason on the simulator as well as buddy boxing at the park. Look for Jerry at the field when you are there and you might get a glimpse of the Model A Ford he drives!

Next Meeting

October 23, 2013
6:30 pm at Jake's Diner

Food available
come early to visit and eat.



FROM THE EDITOR



by Andy Niedzwiecke

Hey, here we are and another month has flown (no pun intended) by. The crisp fall air is upon us and I know that a lot of people are stocking up for their winter projects. There is now some urgency to get the interior of the clubhouse finished and the new stove installed and running right.

If you missed the Club 40 races this year, you really missed a lot of fun and action. The pilots are getting better and the races are closer and closer. If speed tempts you, then you should really consider getting a plane and getting involved next year.

This issue of the Flight Report has lots to offer from some informative articles to a good tale of adventure in the desert. It also has the results of the Club 40 races and some pictures of the no-so-lucky participants.

Jason Westlind also continues his build article of his SIG HOG BIPE and another safety column, both of which are very good. Just to add to the safety and instructional topic, I'd like to add that the time to work on and check out a plane is BEFORE you get to the field. The object is not to work on a plane at the field but to fly. We have lost some good instructors because they had to work on planes on the field and not instruct. If you need help at home to set up a plane properly, there is a wealth of knowledge in this club and you can expect that someone will be able to assist you in whatever situation you might run across.

Finally, the October meeting is officer nomination time. If you want to run for office or have someone you want to nominate, please check with the person first before you nominate so we can get an accurate list of candidates at the meeting.

Well, that's it for me. I hope to see you all at Jake's on the 23rd.

Andy

Welcome



NEW MEMBERS



Say Hello to Ron Grigsby. Ron is a long-time model builder and flyer and is no stranger at our field. Ron has decided to join us at BAM and we are surely glad to have him. Along with all of his interests in the RC world, Ron has been an active participant in the Club 40 races ever since they began. Welcome to BAM Ron!



A Big BAM welcome to Jerry Cartwright. Jerry is not only just joining BAM, but he is just now getting into the hobby. He has been working with Jason Westlind and James Fredricks at the Park Flying get-togethers and has purchased a flight simulator and two planes. We got to meet him in person at the last meeting. Welcome to BAM and the hobby Jerry!

FROM THE PRESIDENT



Message from the President

by Waldemar Frank



Dear Members, Fellow RC Pilots, and Interested Readers:

Summertime has slowly come to an end and the start of fall is the beginning of our club officer election period. As you may be aware, all nominations must be submitted and confirmed by the October meeting to allow us to cast our votes by the November meeting. The new terms will start on January 1st following the November election. And this brings me to this month's message.

It seems that many clubs dread this task and struggle with finding volunteers who can commit their time to the club and membership. Nevertheless, it is an essential task and an important opportunity for club members to identify and elect effective club officers. Without effective club officers, most clubs would not be successful and could not provide an enjoyable environment to their members.

Thus, nominating members for club officer positions should not be treated lightly or as an administrative task by simply filling an opening. Talking people into volunteering may also not be the best approach, because an officer who lacks the interest or availability to properly fulfill the assigned role is destined to fail. Sometimes, it may be best to not fill a role rather than set unrealistic expectations that cannot be met by pushing members to become club officers. For AMA-chartered clubs, the only club officer position that must be filled is that of Safety Officer. Although it is usually beneficial to have and fill other club positions, sometimes less can be more.

Fortunately, we at BAM have been lucky in past years and have had many qualified members willing to commit their time and interest. Next to volunteering personal time and being dedicated to the club, club officers are often faced with adversity due to tension caused by competing opinions or goals for the club. As a result, dealing with club diversity and diplomatically managing adversity are essential skills for an effective club officer. More importantly, good communication skills and having the necessary sensitivity to pick up on underlying tensions are critical for avoiding unnecessary escalation and counter-productive behaviors.

In conclusion, I want to thank all members who have committed their time in the past to fill critical club officer positions or regularly dedicated their personal time to make our club fun and enjoyable. And I also want to encourage those members who have considered volunteering for one of our positions to step forward. As with all volunteer organizations, it is the act of volunteering that makes a difference and keeps clubs like BAM successful and exiting.

So, don't forget to submit your nominations and cast your vote in November!

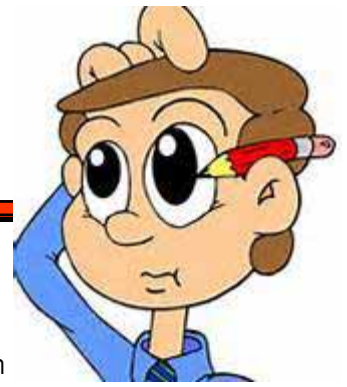
Sincerely,

Waldemar Frank

BAM President

DO YOU KNOW YOUR SPEED CONTROL?

by Waldemar Frank



Last month, I provided a basic summary about LiPo batteries and the general precautions associated with using them. Understanding your batteries alone will not fully cover the interaction and compatibility challenges involved in the different components of a power system for electric R/C airplanes. In this issue, I would like to focus on Electronic Speed Controllers—or “ESC” for short.

The first thing I would like to point out is that ESCs for brushed and brushless electric motors are different, and that an ESC for brushless motor cannot be used on a brushed motor and vice versa. Although it is not the main subject of this article, I would like to mention that brushless motors are generally more efficient and powerful compared to equivalent brushed motors.

This is one reason why the price for brushless motors has historically been much higher and why brushless motors have been less commonly used by the average hobbyist. With more powerful and cheaper batteries, brushless motors have also dropped in price over the years and are now more widespread than brushed motors. Thus, I will focus on ESCs designed for brushless motors.

In simple terms, the Electronic Speed Control is designed to adjust the revolutions of the motor depending on the position of the throttle stick on your transmitter. However, a typical ESC can do more than that. Most ESCs can be programmed to control specific settings such as the startup and shutoff of the motor to support different airplane applications.

For example, an electric glider that uses a folding propeller benefits from using an electronic brake to allow the folding of the propeller blades when not in use. If the revolution of the propeller would not be stopped, the blades would not fully fold due to the centrifugal force created by a free-spinning propeller, resulting in unnecessary drag during gliding. An electronic brake that kicks in whenever the motor is shut off prevents a free-spinning propeller. There are other parameters that can be controlled via the ESC, which could be a separate article on its own (the programming of ESCs). My recommendation is to always review the features that a specific ESC offers before committing to a particular product. In general, the ESC should be suitable for the application at hand, including the power requirements of the airplane.

When selecting an ESC, one critical design parameter is the current rating of the ESC. Most ESC classifications use the current rating in their product title to make it easy to identify the right current without having to review the entire set of specifications. The current rating usually refers to the maximum continuous current that the ESC can sustain without damage. In order to determine the required ESC current rating, one needs to know the design specifications of the motor, including the possible battery types and propellers used together with the motor for a particular airplane type.

Unfortunately, not all motor manufacturers provide sufficient details about different propeller-battery configurations to easily select the right design current for your application. However, at a minimum, manufacturers indicate the design current and the maximum current a motor will draw. If no additional information is supplied, one can simply use the maximum current and add about 20%-25% to the specified current value to determine the current for a suitable ESC.

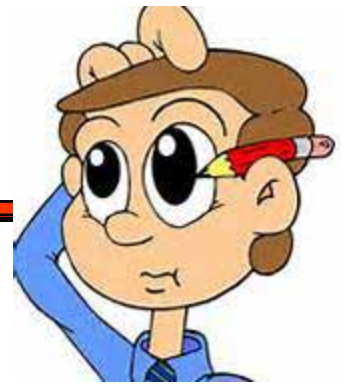
For instance, if the maximum motor current is 45A, then the ESC current rating should be around 56A ($45A \times 1.25 = 56.25A$). ESCs are often provided at 5A or 10A increments for ESCs rated at or above 20A. So the next highest available value would be a 60A ESC. In cases where you do not have access to actual current values for different battery-propeller configurations for your electric motor, this simple calculation is appropriate. The disadvantage is that you will likely end up with an overrated ESC current and have to buy a bigger ESC than needed.

In cases where you have access to the specific current draw for a particular battery cell count (voltage) and propeller (diameter and pitch), you can use that current as your design input parameter for calculating the needed ESC current. Another option would be to use a wattmeter to measure the current draw, which would provide the most accurate value for the selected configuration.

DO YOU KNOW YOUR SPEED CONTROL?

by Waldemar Frank

continued



Selecting an ESC based on the amperage rating alone is not advisable. The programmable features should be reviewed as well. There are other design elements that should also be considered, such as the number of cells (for LiPos) that the ESC can support. Not all ESCs can support any number of LiPo cells (voltages). Thus, also check the minimum and maximum number of LiPo cells that the ESC of interest can support.

Moreover, compared to combustion-based power systems, electric airplanes also have the advantage that the same power source (battery) can be used for both the motor and the receiver/servos. In order to ensure that the receiver and servos don't get damaged, some ESCs have a separate, dedicated circuit built in that regulates the power needed for the receiver and servos. This separate circuit is called *Battery Eliminator Circuit* or "BEC" for short. The BEC ensures that the battery voltage is adjusted to an acceptable operating range for receivers and servos (around 5.5V). This allows the use of batteries with higher cell counts (higher voltages) without damaging the receivers and servos.

In addition to adjusting the battery voltage, the BEC regulates the current supplied to the receiver and servos since the current draw is significantly lower than that of the motor itself. The typical range is from 1A to 5A. This should not be confused with the amperage rating for the ESC, which usually refers to the maximum continuous current draw as previously described.

Another important safety feature that an ESC with BEC provides is the cut-off voltage setting, which controls the cutoff of the battery power to the motor to prevent the voltage from dropping so much that the receiver and servos are no longer working and a crash is imminent.

Some ESCs allow the adjustment of the cut-off voltage while other ESCs come with a pre-configured fixed setting. Depending on the battery type used with the airplane, you might want to re-program the cut-off voltage to a suitable value for your battery type (if possible).

For example, the voltage of LiPo batteries drops rapidly when the individual cell voltage reaches 3.3V (which is at about 20% of the battery capacity). Some ESCs come with a default value that supports LiPo batteries and the default value may be somewhere between 3.0V and 3.3V. When the battery drops to this value, the ESC either fully cuts off the power to the motor and just powers the receiver and servos to allow a dead-stick landing or the ESC switches to a pulsed power setting that provides short, pulsating power bursts to the motor to allow limited-powered flight for a safe landing.

The BEC can come in two configurations: (1) a Switching BEC (SBEC) or (2) a Universal BEC (UBEC). To keep it simple, ESCs with a switching BEC (SBEC) are usually more compact. Some pilots prefer ESCs with a UBEC for its simplicity and more robust design (and lower price).

ESCs with a BEC are suited for most small and medium-sized electric planes (e.g., <100A current rating) because the BEC provides adequate power to support the current requirements of the receiver and typical size and number of servos used on such airplanes.

However, if you want to fly larger planes with an electric propulsion system or use high-torque or many servos (e.g., >5 standard size servos), you should use an Optical Isolated ESC, which is often referred to as *OPTO ESC*. An OPTO ESC requires a separate power source for the receiver and servos, which can be specifically selected and configured to provide the needed current and capacity without risking damage to the ESC due to a power surge that could result in a fatal crash.

Hopefully this short introduction to ESCs will help you with your next project and electronic speed control selection.

CLUB 40 RACING



Well, to say the last of season races were dramatic would be a gross understatement! To begin with the weather was nice but there was a wind that was blowing from East to West that was causing some interesting maneuvering in the air.

The day started out as usual with some friendly banter and the required pilot's meeting. Thank goodness, Bruce Burgess had re-worked the computer equipment and after a thorough check-out it was determined that all systems were go.



In the second race in the second lap, disaster struck when Rick Burgess and Greg McNutt experienced a conflict of air space commonly referred to as a mid-air collision. Rick's plane plummeted to the ground in relatively big pieces but Greg's plane come back to earth in somewhat of a confetti configuration.



Well, at least it won't take a brush and a dust pan to pick up my pieces!



My first build.... Anybody got a brush and a dust pan?



In a subsequent race, Darrell Loveland was racing Waldemar Frank.....his arch-rival.....when Darrell clipped Waldemar's plane and sent him to the ground.



Ya know...if I didn't know better, I'd say that this is the only way I think that Darrell think's he can win. He gave me this plane last year and now I'm beginning to see what his plan must be!



Of Course we would be remiss if we did not recognize the starter we are lucky to have at these races, Marissa Frank. She makes sure that everything is OK before giving the "Start your engines" command. Thanks for your help Marissa!

Good try Darrell. Ya know we had to race and you had to win to win the season but ya know, that's racing. Better luck next year. Oh, and try to stay outta my way so I don't have to have so darn many back up planes!



Good try my rear-end! He knew the only way he was going to win was to take me out.

THE SURVIVORS !!! THE TWO PILOTS THAT WERE TRIUMPHANT AND TOOK THEIR PLANES HOME IN ONE PIECE !!!



Joe Stone



Ron Grigsby



Now here we have Greg McNutt celebrating the 1 point he earned at the meet. This guy gets excited about everything.....well almost everything.



A special note to all who volunteered at the races this year. I would name names but am afraid I'd miss someone, but you all know who you are and without you there would be no races. So a big THANK YOU to all !!!



Here's a good shot of Diego, the un-official club mascot showing his usual excitement about the goings on at the field. Eventually someone will give him a hand-out which he greatly appreciates.

The Oct 5 winners are ...



The Winner!!!
Bruce Burgess



A close second!
Darrell Loveland



A great flyer, look
out for him next
year, Joe Stone



Race 3 (October 5, BAM)

Pilot	Score	Efficiency	Heat 1	Heat 2	Heat 3	Heat 4	Heat 5	Heat 6	Heat 7
Bruce Burgess	23	82%	4	4	4	4	-	4	3
Darrell Loveland	21	75%	3	3	4	4	3	4	-
Joe Stone	19	68%	2	3	-	3	3	4	4
Waldemar Frank	12	43%	4	4	-	-	4	-	-
Ron Grigsby	11	39%	2	-	3	3	-	2	1
Rick Burgess	3	11%	3	-	-	-	-	-	-
Greg McNutt	1	4%	1	-	-	-	-	-	-

And the season results are ...



The Winner!!!
Bruce Burgess



A close second!
Darrell Loveland



Third, not by
much though,
Waldemar Frank

Season Standings (Final)	Points
Bruce Burgess	60
Darrell Loveland	59
Waldemar Frank	47
Joe Stone	46
Rick Burgess	33
Ron Grigsby	23
Rodney Keller	15
Tony Bass	14
Greg McNutt	14

JASON'S SIG HOG BIPE ADVENTURE



by Jason Westlind...Part 2

I am really having fun with this kit! I just wish I had more time to put into it. So far I have completed the fuselage which involved sheeting the top decks and shaping the cheek trim. I also installed the motor mounts and routed the throttle cable. The fuse is now sanded and awaiting the wings and tail to be completed and fitted.



I then got started on the top wing which I was very excited to tackle. I love building wings for some reason. I think it is because the wings are what makes an airplane an airplane. That could also be a reason I have a fondness for biplanes. I could also just be a glutton for punishment. The building of the top wing was very straight forward without any surprises. The wing came out nice and straight so I did not get to test my much practiced wing straightening skills. It has been fun sanding and contouring the wing to make it just right.



My next task will be to start on the lower wing. It will be built in two pieces and joined together with about 6 degrees of dihedral. I am also adding dual servos in the wings instead of the single servo as per the original. I just want a little stiffer control feel and the added security of dual servos since there are four ailerons to operate.

cabane strut mount so I can install the wing bolts from the underside of the top wing to eliminate the unsightly holes in top of the beautiful upper wing.

Other modifications have included moving the landing gear forward $\frac{1}{2}$ " to improve ground handling and to keep nose-overs to a minimum. I also drilled the

I decided to treat myself and have ordered an Aeroperfect computer inclinometer for checking the incidence and decalage. Checking incidence and decalage is extremely critical when it comes to bi-planes.

Stay tuned for my future progress. I am hoping to be ready to start doping the airframe by the next newsletter. My goal is to have it ready to maiden on Christmas day. It will be a push so I will rely on all of you to keep me motivated!

SEPTEMBER 2013 MEETING
SHOW & TELL



Talk about a happy guy!
Look at that cinnamon roll
in front of Tim Peterson!!
I'm sorry to report that he
was not able to finish it but
he gave it a good try.

Here's Waldemar Frank proudly
showing off his well-deserved
crash trophy for his dual-crash
at LaPine and now another on
Oct 5. Also notice the nifty new
trailer that Waldemar just got. It
even matches his car!!!



Jon Putnam gave an interesting
demo on how to replace an electric
motor shaft. That red press
weighed quite a bit but Jon said you
need the right tool for the job.
Thanks Jon for the education!



Bill Hand brought in his nifty
Maxford Jenny in a box. You
have to see this setup in per-
son to believe it. The box
came with it for easy travel.



Bruce Burgess is seen here
showing Jerry Burgess' Conley
dual overhead cam four-stroke
engine. The engine is no longer
in production but this is a brand
new example. You should see all
of Jerry Burgess' engine collec-
tion!

Our Alvord Desert Experience

By Greg McNutt



Soon after I joined the Bend Aero Modeler's club our esteemed leader, Waldemar Frank, began telling me about his yearly pilgrimage to the Alvord Desert in Southeastern Oregon. Located just east of the Steens Mountains, the desert consists primarily of a dry lake bed. Eight miles wide and fifteen miles long, the Alvord desert is the longest and widest RC runway that I have ever seen. I might add that it is the smoothest runway also. As Waldemar told it, the pilgrimage is a soul cleansing experience. One that helps us recharge our own inner batteries, restoring the essence of who we are as individuals. As it turns out, he was right. Not only did it help me recharge my batteries, but it gave me a sense of longing . . . longing for another chance to visit that beautiful dust filled giant runway in southeastern Oregon.



On September 13th, 2013, I met up with Waldemar and Joe & Kim Stone at 10AM on the east side of Bend. All of us were packed and ready for a week long experience in the desert. All four of our vehicles had trailers attached, that were filled with flying and camping supplies. In addition to flying and camping supplies, Joe's trailer carried all nine of his hound dogs. That's right, nine hound dogs! It seems that dogs like the desert too. As the days unfolded, that would prove to be true. Not only did Joe have his hounds, but I had our club mascot, Diego. Yes, Diego was itching (pardon the pun) to share the experience and howl at the moon a time or two. He doesn't quite have the howl of the hound, but he gave it all he had when the opportunity presented itself.

We departed Bend and were soon joined by Tim and Cheryl Peterson. They were patiently waiting in front of the Peterson Ranch, just east of town. They were loaded up as well. They were in the Peterson motorhome along with a trailer that proudly carried the Peterson Quad. So Eastward we headed, setting our sites for the DQ in Burns, Oregon. After feasting at the DQ, getting more ice and more fuel, we headed south towards the Steens Mountains and eventually the Alvord Desert that lies just beyond the Steens.



After a few more hours of driving through some very beautiful desert landscape, we arrived at our destination, the Alvord Desert. We went from paved road, to gravel road, to a smooth dry lakebed to get to our campsite. The campsite was already occupied by the rest of our group. James Fredericks, Tony Bass (Waldemar's brother-in-law) and four other fellow pilgrims were there to welcome us. Tony had gotten there a day earlier and had the center piece of the camp all setup and ready for service. Of course, I am talking about the kitchen area. With three canopies tied together, the kitchen was complete with tables, chairs, lights, propane cook stoves, an oven and plenty of utensils, plates, cups, etc. As it turned out, food was by no means in short supply. We weren't going to go hungry anytime soon.

Once we had setup our own individual campsites and created a mini-airport (The Stone/Frank International Air Terminal), it was time to get some planes in the air. Tony Bass was



the first to take flight. He guided his fearsome plane all over the place with lots of low passes and even a couple flight tower flybys. This was only the beginning of a week of fun flying for all twelve of us. Before the week was up, we would fly planes, kites and rockets. We would fly during the day and we would fly during the night. We would fly, we would eat, and we would laugh. We would tell stories and jokes until the late hours each night. In short, we would have an unforgettably great time!



Dinners were spectacular as our fellow campers would team up to make some great feasts. We had stews and soups. We had dogs, pasta and other great meals. We also had some great breakfasts with plenty of eggs, sausage, pancakes, hash browns and juices to go around. Joe and Kim even prepared a very satisfying biscuits and gravy breakfast one morning. Nobody went hungry!

In addition to flying and trying to set new speed records in vans with kayaks attached, we tried a little fishing and kayaking at the nearby Mann Lake, sunk our toes in a few of the local natural hot springs and explored new frontiers with the many quads that were brought to the camp. Without a doubt, boredom never visited our camp, not once.



As mentioned earlier, in addition to flying planes and rockets, we flew my kite. Make no mistake, our kite flying experience was not the kind of sedate, sit on the easy chair and fly that paper



kite in a gentle breeze experience. No, this was an Hawaiian Team Kite with an eight foot wing span and two 300 pound test lines, flying in stiff breezes not meant for RC flying. Just about everyone took a turn trying to control this powerful kite in strong winds. It was a challenge for anyone under 250 pounds. James got in on the action, too. Being an experienced kite flyer, he knew he would need a little help from some friends to stay put in his chair and not become airborne. As directed by James, we duck taped his hands and wrists to the control handles as well as belted him down to his chair. While two others held him down, James masterfully flew the stunt kite for several minutes. Talk about teamwork. In the end, it was James Fredericks showing that kite who the boss was! Now

that is one tough dude! I guess "James Rules" has several meanings.

Though we had non-stop fun, we weren't without our challenges. It seemed that Mother Nature wanted to get in on the fun as well. Enter the wind. I guess a desert wouldn't be complete without some wind. What do you get when you mix wind and heat with a flat and dry lake bed? Answer, dust devils! There is a reason they call them devils. They can be nasty and can strike without a moments notice. During Day 4 of our pilgrimage, Mother Nature made a call. She waited until the camp was nearly empty before making her move.



While half of the camp was off exploring new frontiers on their quads and all but one of the other half were out purchasing more ice, the dust devils made several passes, by, around and through our camp. I was the lone camper still in camp. Correction, Diego, nine hound dogs and I were there to guard the camp. The trouble is, neither dog nor human can guard against Mother Nature. The first big one came right through the middle of camp. In it's path was Waldemar's tent and the mess hall. And sure enough, after it barreled through, both the tent and the mess hall were a mess. Tables overturned, pots on the ground, plates and napkins flying in the air. And Waldemar's tent? Well, lets just say that he would do a little tent shopping when he returned to civilization. Just as Waldemar, Tony, Joe and Kim returned from ice hunting, another dust devil came through and hit my trailer, canopy and tent directly. My canopy folded up along with all of my planes that were hiding under the protective cover of the canopy. Luckily, only two planes where damaged and none too badly. The wind blew the rest of the day. We did our best to fight against the wind, but in the end, it was Mother Nature, 1, Pilgrims, 0. We survived to fly another day.



My canopy folded up along with all of my planes that were hiding under the protective cover of the canopy. Luckily, only two planes where damaged and none too badly. The wind blew the rest of the day. We did our best to fight against the wind, but in the end, it was Mother Nature, 1, Pilgrims, 0. We survived to fly another day.

There are more stories to tell, but time and space won't allow them to be told this time around. For most of my fellow pilgrims, this was their 12th or 13th pilgrimage to the Alvord Desert. For me, this was my first. I can tell you with a great degree of confidence, that it won't be my last. I am hooked. I want more. If the Lord is willing and the creek (lake in this case) don't rise, I will be back next year, and the year after that. I want to invite you to join us if you care to. If you want to have an unforgettable time with a bunch of other pilgrims and you don't mind the dust, dust devils and open air bathrooms, this might be the place for you. September, 2014 is waiting for all of us! Lets head back to the Alvord Desert!

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OBITUARIES

Rest In Pieces



**HOORAY!!! THERE WERE NO
CRASHES TO REPORT EXCEPT
FROM THE CLUB 40 PYLON RACES.
GOOD GOING!!!!**

SAFETY REPORT



Safety comes in many forms and can be easily overlooked. That is why taking your time and being prepared can pay off with a very safe and enjoyable flight experience. For that reason, this month I will be talking about pre-flight safety checks.

Some of you may think that the safety check is something that you do when your plane is running and you move the sticks to see if the control surfaces move. However, it goes well beyond that. The safety check should begin before you even leave for the field.

For example, make sure that all batteries are fully charged. This includes igniters, flight packs, starter batteries and transmitter/receiver packs. This is also a good time to give the aircraft a thorough inspection to ensure that there are not any loose bolts or hardware. Due to vibrations and mechanical loads, it is important to check the engine and motor mounting bolts. Before you leave for the flying field, also make sure you have everything you may need to support the flying you will be doing. Checklists are a great tool to verify that you do not leave anything behind like a wing tube or a glow igniter.

Once at the field, it is good practice to methodically go through all pre-flight checks such as attaching wing bolts and give the aircraft another close physical inspection. For instance, check such things as the prop to make sure there are no chips or cracks that could cause a failure. Another example is to check landing gear bolts and wheel retainers before each flight. Even the simple things can be overlooked such as securing your aircraft's canopy or battery hatch. Anything that is missed could cause a fatal loss or out of control aircraft.

Once you confirm that your aircraft is mechanically sound, it is time to start turning on switches, or is it? Double checking voltage capacity in both transmitter and receiver batteries before each flight is also good practice because it ensures there will be enough power for an entire flight. Never say "I think I can get one more flight out of that charge". If you are unsure of the batteries' condition or charge, do not fly!

You should always turn on your transmitter before switching on the power to the aircraft. Make absolutely sure that your radio is on the appropriate channel (if applicable) and that you use the correct settings for the aircraft you are preparing to fly. Once you are certain that you have the correct model selected you may now restrain the aircraft and turn it on.

At this point you can perform the very important control checks. Don't just verify that the control surfaces move, but make sure that they are moving in the correct direction. Remember that the right aileron should go up for a right turn and vice versa. You should also check that there is not any binding or twitching of the servos because this could indicate an issue that requires your attention.

There are many more procedures that could be discussed, but the point of this summary is to make all of us aware of the simple things that we may overlook or take for granted. Any loss of control of an aircraft can create a hazardous situation not only for you but also other pilots and spectators. Plus, crashing your aircraft because you forgot to secure a clevis or attach the wing bolts is embarrassing. Just take your time and double check every time, all the time.

Have fun and be safe!

Jason Westlind
(Field Safety Officer)

SAFETY REPORT continued



POPP'S FIELD SAFETY GUIDELINES

All pilots shall be current members of A.M.A. and B.A.M. Proof of current A.M.A. membership is required prior to flying at B.A.M.

Visiting A.M.A. pilots and new members of B.A.M shall receive a safety orientation prior to their first flight.

Pilots shall ensure safe flight operations in concordance with A.M.A. Safety Rules and these Field safety Guidelines.

Pilots shall ensure safe operation of their aircraft and associated equipment prior to use.

Pilots are encouraged to verbally enforce safe flying practices.

All guests, children, and pets shall be supervised by a B.A.M. member while inside the flying field and are encouraged to remain behind the pit tables.

All pilots shall restrain their aircraft during the start-up/arming process. This includes electrics.

Pilots shall never leave their aircraft unattended while the aircraft is running or armed..

Pilots shall only taxi aircraft in the specified taxi area and use caution while taxiing.

While flying, pilots are encouraged to remain 25 feet behind the closest edge of the runway, preferably behind a pilot station.

Pilots shall verbally communicate their intentions such as landings, take-offs, or aircraft problems while flying.

Pilots shall fly their aircraft north of the centerline of the runway. This is known as the "deadline".

Pilots only are permitted beyond the flight line (e.g., to retrieve an aircraft)

Landing aircraft have the right of way. Dead-stick landings shall be announced as such and given full priority.

Pilots shall communicate any aerobatic maneuvers such as, low passes, touch and go's, and hovering directly near or above the runway.

Pilots shall not take-off or land on the taxiways.

A maximum of five (5) aircraft is allowed in the air at one time. This includes helicopters and micros.

Pilots shall call all maiden flights prior to flight. All other aircraft shall be grounded throughout the entirety of the flight.

Hand launches shall be performed approximately 25 feet from the edge of the runway closest to the pilots' station.

Pilots using AM/FM radio equipment shall have the appropriate frequency pin attached to the transmitter antenna whenever the radio is in use.

R/C cars and other surface vehicles are prohibited anywhere inside the flying field.

Smoking is prohibited anywhere inside the flying field and shall be carried out in a safe and respectful manner in the parking lot.

The consumption of alcoholic beverages before or during flight is prohibited.

Academy of Model Aeronautics National Model Aircraft Safety Code, Effective January 1, 2011

A. GENERAL: A model aircraft is a non-human-carrying aircraft capable of sustained flight in the atmosphere. It may not exceed limitations of this code and is intended exclusively for sport, recreation and/or competition. All model flights must be conducted in accordance with this safety code and any additional rules specific to the flying site.

1. Model aircraft will not be flown:
 - (a) In a careless or reckless manner.
 - (b) At a location where model aircraft activities are prohibited.

2. Model aircraft pilots will:
 - (a) Yield the right of way to all man carrying aircraft.
 - (b) See and avoid all aircraft and a spotter must be used when appropriate. (AMA Document #540-D-See and Avoid Guidance.)
 - (c) Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport, without notifying the airport operator.
 - (d) Not interfere with operations and traffic patterns at any airport, heliport or seaplane base except where there is a mixed use agreement.
 - (e) Not exceed a takeoff weight, including fuel, of 55 pounds unless in compliance with the AMA Large Model Aircraft program. (AMA Document 520-A)
 - (f) Ensure the aircraft is identified with the name and address or AMA number of the owner on the inside or affixed to the outside of the model aircraft.
(This does not apply to model aircraft flown indoors).
 - (g) Not operate aircraft with metal-blade propellers or with gaseous boosts except for helicopters operated under the provisions of AMA Document #555.
 - (h) Not operate model aircraft while under the influence of alcohol or while using any drug which could adversely affect the pilot's ability to safely control the model.
 - (i) Not operate model aircraft carrying pyrotechnic devices which explode or burn, or any device which propels a projectile or drops any object that creates a hazard to persons or property.
Exceptions:
 - Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight.
 - Rocket motors (using solid propellant) up to a G-series size may be used provided they remain attached to the model during flight. Model rockets may be flown in accordance with the National Model Rocketry Safety Code but may not be launched from model aircraft.
 - Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Team AMA Program Document (AMA Document #718).
 - (j) Not operate a turbine-powered aircraft, unless in compliance with the AMA turbine regulations. (AMA Document #510-A).

3. Model aircraft will not be flown in AMA sanctioned events, air shows or model demonstrations unless:
 - (a) The aircraft, control system and pilot skills have successfully demonstrated all maneuvers intended or anticipated prior to the specific event.
 - (b) An inexperienced pilot is assisted by an experienced pilot.

4. When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

B. RADIO CONTROL (RC)

1. All pilots shall avoid flying directly over unprotected people, vessels, vehicles or structures and shall avoid endangerment of life and property of others.

2. A successful radio equipment ground-range check in accordance with manufacturer's recommendations will be completed before the first flight of a new or repaired model aircraft.

3. At all flying sites a safety line(s) must be established in front of which all flying takes place (AMA Document #706-Recommended Field Layout):
 - (a) Only personnel associated with flying the model aircraft are allowed at or in front of the safety line.
 - (b) At air shows or demonstrations, a straight safety line must be established.
 - (c) An area away from the safety line must be maintained for spectators.
 - (d) Intentional flying behind the safety line is prohibited.

4. RC model aircraft must use the radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly Licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.

5. RC model aircraft will not operate within three (3) miles of any pre-existing flying site without a frequency-management agreement (AMA Documents #922-Testing for RF Interference; #923- Frequency Management Agreement)

6. With the exception of events flown under official AMA Competition Regulations, excluding takeoff and landing, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and the pilot's helper(s) located at the flight line.

7. Under no circumstances may a pilot or other person touch a model aircraft in flight while it is still under power, except to divert it from striking an individual. This does not apply to model aircraft flown indoors.

8. RC night flying requires a lighting system providing the pilot with a clear view of the model's attitude and orientation at all times.

9. The pilot of a RC model aircraft shall:
 - (a) Maintain control during the entire flight, maintaining visual contact without enhancement other than by corrective lenses prescribed for the pilot.
 - (b) Fly using the assistance of a camera or First-Person View (FPV) only in accordance with the procedures outlined in AMA Document #550.