Bend Aero Modelers

Flight Report

November 2013

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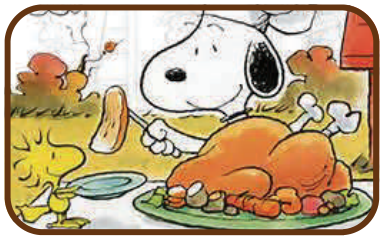
Quarterly Outstanding Member Award

This Quarter's Outstanding Member Award was presented to Jason Westlind by BAM president Waldemar Frank at the October meeting. Jason's efforts in helping establish good safety practices and helping new pilots earn their wings were two of many contributions Jason was recognized for. Congratulations Jason!!

Next Meeting



Happy Thanksgiving !

TUESDAY November 19, 2013
6:30 pm at Jake's Diner

Food available
come early to visit and eat.

From the Editor

by Andy Niedzwiecke

I'd like to start this page with a big **THANK YOU** to Steve Younger and Tom Schramm. We have been trying to get the clubhouse done for winter and we've been working at it but it has been slow. Well Steve, on his own, went out and finished the painting and caulking so the clubhouse is ready for the stove installation and we can call it done for the season. Tom Schramm took one of the windows home that was damaged and repaired and re-installed it and also fixed the temperamental club generator so that is behind us as well. It is these kinds of individual effort that makes this club run. A lot of small things are routinely done but Steve and Tom, they have a track record of going above and beyond the call of duty and I think we all owe them a sincere debt of gratitude for all of their efforts for this club!!!

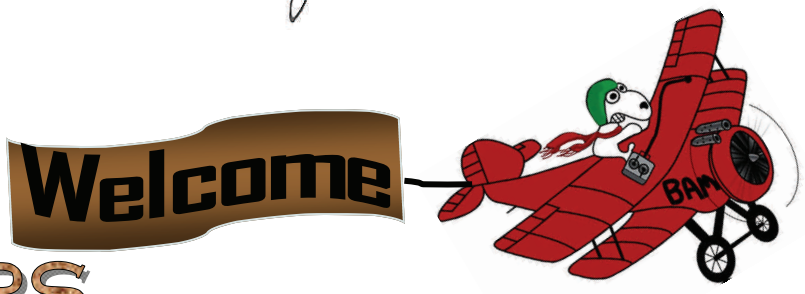
If you haven't voted for VP please do so by the meeting on Nov 19th!

The BAM Christmas party is just around the corner so please RSVP to Waldemar Frank ASAP so proper plans can be made. Last year we had 35 in attendance and the club has grown since then so we expect more this year. Tim and Sheryl Peterson's place is awesome and Tim says he'll have the ping-pong, fooze-ball and pool table ready. A big thanks goes out to Tim and Sheryl for offering their home for this event.

Even though we don't have a meeting in December, I plan on putting out a newsletter so don't stop sending contributions of news or tips or build articles or whatever that you think would be of interest to the club. We won't have a show and tell available so if you get a new plane or are building one, please send details and/or a story and I'll use it.

Well, that's it for this issue so I just want to say Happy Thanksgiving to all of you and you're families and I'll see you at the meeting on November 19th and, hopefully, the Christmas party.

Andy



New Members

Say Hello to Tom Rainwater. Tom is our newest member but certainly not the least experienced. Tom and his family are re-locating from San Diego, Ca. to Bend and one of the first things he did was to locate an RC Club. Tom has experience in a lot of places in the hobby but says right now his main interest is in Giant Scale Warbirds. Tom was out helping at the last Club 40 race and seemed to know more about when to let go of a race plane than our "experienced" holders. I've heard him mention that he might join in on the fun of racing next season. Tom, I'm sorry about the fuzzy picture but I'm not the greatest photographer in the world. You still look good in my opinion. Welcome to the club!

FROM THE PRESIDENT

Message from the President

by Waldemar Frank

Dear Members, Fellow RC Pilots, and Interested Readers:

The nice thing about our hobby is that there is always something to look forward to such as a fun building project, practicing new maneuvers on the flight simulator, organizing and cleaning flight gear, and other things that usually get cut short during the main flight season.

Winter season for me usually involves repair and building projects as well as finding better ways to organize my flight gear. Time is always a challenge and too often many building projects get pushed out or put aside halfway in the process. Nevertheless, I still enjoy the winter season because it is a change in pace and allows me to focus on other aspects of our hobby.

So if you have a current project on your workbench or have some great ideas for organizing/maintaining flight gear or simply got a new plane/equipment, consider sharing it with the rest of us in our newsletter. Just email Andy with a short summary and a picture or two (if applicable). It is always enjoyable to see what everybody is up to when things quiet down a bit.

We sure did a lot of flying this year and we will likely continue flying even during winter (weather permitting). With the improvements to the club house and the pending installation of our new wood stove, getting together at the field should be fun.

Speaking of flying, I would like to remind everybody that flying in the pit area is a serious safety issue. Although we have had many safety discussions over the past several months and published BAM-specific safety guidelines, we had a recent incident that involved flying a micro plane (small quadcopter) in the pit area, which prompted a visitor to duck to avoid a collision. It was a minor incident, but the outcome may not always be as harmless.

Please be conscious and respect the pit area as a safety zone. Any activity in the pit area should be limited to flight preparation and taxiing as outlined in the safety guidelines/AMA safety rules. This rule is not specific to BAM, but is just common sense that we should not have to document or monitor. There is simply no flying in the pit area at any time. So please make sure that all flying only takes place in the designated air space.

Lastly, please understand that the size or type of airplane should not affect our sound judgment and the interpretation of safety. Even micro aircraft can create conditions that could lead to serious damage and injuries. We all want to be safe and we need to be able to trust that each of us respects safety zones for their intended purpose.

Happy Thanksgiving!

Sincerely,
Waldemar Frank
BAM President

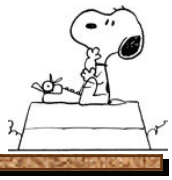
Field TLC And Etiquette

All, the following message was sent out by Tom Schramm on 11/9 after a trip to the field:

The problem with the club's generator not starting or starting and not continuing to run has been corrected.
The engine is equipped with an oil level warning sensor the will stop the engine or prevent starting when there is low or no oil.
This morning I drained what was left of the black oil (about 2 ounces) and refilled with 20 ounces of 10W -30 oil.
Person(s) using the generator need to check oil level before each start and replenish as necessary.
When checking, remove the dip stick, wipe clean and reinsert into the hole allowing the dip stick to rest on top edge of hole threads.
DO NOT ALLOW DIP STICK THREADS TO ENGAGE HOLE THREADS.
Remove dip stick and check oil level.
Also, after each use, refill generator fuel tank and if necessary the 1 gallon plastic fuel can with unleaded, ethanol free, 87 octane or higher fuel.
This generator needs to last for many flying seasons.

Tom makes a good point here that keeping things in running order and field maintenance is not just the responsibility of the EC or a couple of members. It takes all of us to make sure that our field is tidy, safe and in good order. If you are out at the field, we have agreed that the first person there needs to unlock the gates, put up the flag and unlock the tool box where the fire extinguisher and first aid kit reside. The last person to leave the field should lock the tool box, take down the flag and lock the gates.

Along the same lines, if you use the generator or blower make sure that you put gas in them after use so they are ready for the next user. If there is no gas left in the gas can, don't be afraid to take the can and get it filled or let someone know that it is empty. If you get it filled, you will be reimbursed by the club as long as you get a receipt. If the porta-potties need service, let us know so we can attend to it. If you can think of other ideas for this line of thought, please email me with them and I will include them in a future distribution of the newsletter.



Handy Tips and Info

Tom Schramm offers this tip:

Basically when first opening a NEW bottle of CA, rap the bottle bottom a couple of times on your building table to remove CA from the nozzle, then gently twist (open) the nozzle (not the cap) a bit to relieve any buildup of pressure due to elevation difference here in Bend. Otherwise, when you clip the nozzle tip CA may be ejected.

I also soak clogged tips in acetone until clean and have several spares.

Tom Staffeld offers these tips:

I just discovered something others may find useful. I needed to secure something for gluing and keep it at 90°. I filled a bunch of old prescription bottle with bullets (not cartridges, just the lead). They're heavy enough to keep things put and also maintain the 90° angle. You could even bevel the bottom edge so you don't glue a bottle to your work. I'm going to sacrifice a couple hundred bullets and keep these around permanently.

While I'm on the subject, brass tubing makes really clean holes in balsa and light ply. You can do it by hand or drill. Just make a 45° in the inside of one end to sharpen it. If using without a drill, if you make several shallow cuts into the sharpened tube, it gives some teeth.

BAM 2013 CHRISTMAS PARTY

When: **Saturday, December 7th, at 5:00 p.m.**
(dinner will be served around 5:30 p.m.)

Highlights:
- Potluck-style dinner (please RSVP and sign up)
- Gift exchange (voluntary participation/no more than $20 per gift)
- BAM-sponsored drinks, decorations, utensils, main dish

Where: **Tim and Sheryl Peterson's house/ranch**
23670 E. Highway 20
Bend, OR 97701
Phone: 631-220-9312 / Email: tim74fl@gmail.com

Directions: Going east on Hwy. 20 (as if you were going to our flying field), Tim's house is on the left between milepost 8 and 9. His house is a few hundred yards after you pass Dodds Rd. (on your left when going east on Hwy. 20).

Contact: To RSVP, please call **Waldemar Frank** at **541-330-5508** or email president@bamrc.com.

BAM In the Spotlight and On TV !

On October 6, Mackenzie Wilson and Justin Renoud of local TV station KBNZ visited Popp's Field to do a TV story on our club and our hobby. They were both very interested in what we are and what we do and spent a lot of time interviewing and watching the going's on. The day started out cold and really windy but as time progressed, the weather improved…..thank goodness. Quite a few BAM members showed up to fly and show off different planes. There was quite a variety to look at and several planes were in the air at all times. Both Mackenzie and Justin were treated to discovery flights by club instructor Rick Burgess. Justin, who was the primary camera operator even put a camera on member Greg McNutt's plane and took some aerial photos and videos. It was very interesting because Justin could control the camera on Greg's plane with his I-phone. After viewing the piece on TV I admit that I wanted more….but after all, we're the addicts in this hobby. I thought it was a fun and fair example of a day at the field. Thanks Mackenzie and Justin!!!

KBNZ

Here we have BAM president, Waldemar Frank talking with KBNZ reporter, Mackenzie Wilson and explaining a bit about the RC hobby and the activities we enjoy at the field.

BAM member, Tom Schramm brought quite a few different airplanes to display. Here he is talking with KBNZ reporter, Justin Renoud and getting in little camera time.

A good shot of the attending BAM members and the TV guests as well as our UN-official club mascot Diego who is front and center!

KBNZ's Justin Renoud attached a camera to BAM member Greg McNutt's Big Stick for some aerial footage. In the middle picture you can see Justin filming the take-off. The picture to the upper right is a picture of the area where the camera was attached……..a little bit of Mono-Kote and all will be fine. Justin did want to get another view of a take off so he placed a small video camera on the centerline of the runway which he could control with his I-phone. Greg McNutt volunteered to take off his HobbyStar for this event. Unfortunately Greg was unable to get his plane off the ground before it reached the camera so the camera went tumbling down the runway after meeting up with the nose gear of Greg's plane. Don't know if we will see this but it sure would be interesting to see what it recorded.

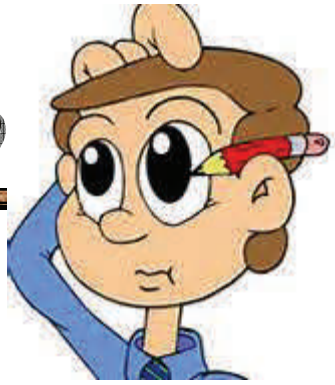
Bam Vice-president and flight instructor Rick Burgess got the chance to give Mackenzie and Justin a discovery flight. They really enjoyed the experience and did quite well. Justin expressed interest in coming out when he was off-duty for some more instruction

Diego embarrassed with his pink and powder blue winter wear.

BAM member Richard Carlson got the opportunity to talk to Justin about his Quad-copter and later demonstrated how it flew.

Do you know your Battery Connectors?

by Waldemar Frank



This is my last topic of a three-part series of related topics concerning electric flight. This time, I would like to talk about battery connectors. Everybody who has electric airplanes has experienced the frustration of dealing with too many different brands of connectors used on batteries or speed controllers.

Regardless of personal preferences, the many options and standards force you to either accumulate a variety of compatible adaptors to connect mismatching connectors or standardize the connectors of your airplane fleet. I made the conscious decision to standardize all my connectors so I don't have to worry about bringing the wrong adaptor to the field or keeping track of all the different adaptors I would need. Although it requires some effort and a small investment, the overall gain makes such a difference once you fly multiple electric planes and can use the same batteries on several airplanes.

When deciding on a standard connector type, there is more to consider than just a pretty design. A connector should be ergonomic and allow easy removal without applying excessive force that could damage the wires or battery. At the same time, connectors should provide a snug fit so that they do not come off during flying. It may sound silly, but the size of your fingers can also affect how easy it is for you to hold on to certain types of connectors.

Generally, the shape of the connector and surface texture determine how easy it is to hold on to and disengage the male and female connectors. If you have to pull on the wires to disconnect the battery from the speed control, you can be assured that you will have connection issues sooner or later and potentially have a fatal short circuit or permanent/intermittent loss of power.

Likewise, most connector types come with a built-in design safety feature to prevent mismatching polarities when plugging together two connectors. Some designs are more foolproof than others and you might want to choose a design that best fits your habits. In addition, you might have an assortment of batteries that use a range of wire gauges. Make sure that the connector of choice can accommodate the wire gauge of the matching battery should you decide to standardize your battery connectors. Some connector types come in different sizes to fit different wire gauges and to withstand the required current draws.

And "current draw" is another important keyword. All connectors are rated for a safe maximum continuous current draw. That is, make sure that your connectors will support the specific application and not disintegrate because the current draw exceeds the allowable maximum value. An easy way to assess the potential maximum current discharge of your battery is to multiply the battery's C-factor with the battery's capacity value.

For example, a battery that has a capacity of 2,200mAh (2.2Ah) and a C-factor of 25C could deliver a continuous current of up to 2.2 x 25 = 55A. Depending on your specific airplane and power setup, the motor may never draw this much current, but at least you have a general reference point for your connector selection. In reality, many connector types can endure higher currents than their general rating indicates. But you should not exceed it by too much to avoid potential damage or loss of your airplane.

Do you know your Battery Connectors?

by Waldemar Frank

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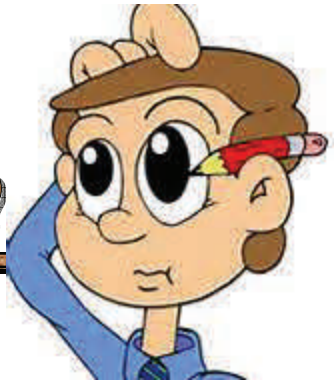


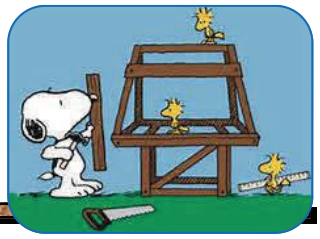
Following are popular connector types and their approximate current ratings:

Image	Connector Description	Max. Continuous Current Rating
	Deans connector (male/female)	60A
	XT60 connector (male/female)	60A
	EC3 connector (male/female)	60A
	EC5 connector (male/female)	120A
	HXT 4mm bullet connector (male female)	90A
	HXT 6mm bullet connector (male female)	120A

Fly safely!

Waldemar

Jason's Sig Hog bipe Adventure

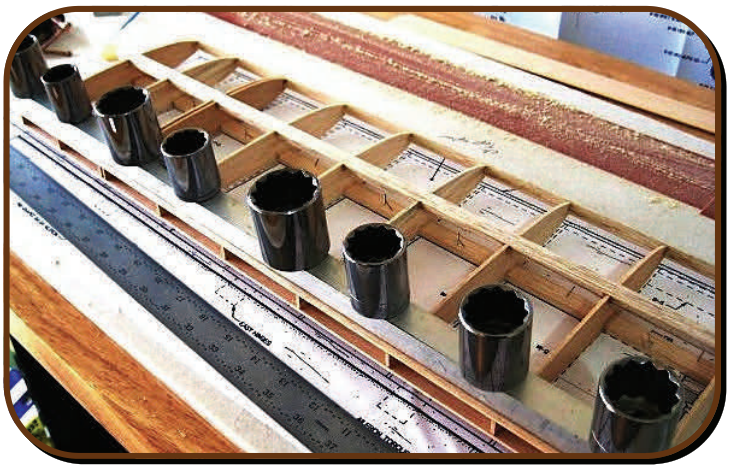


by Jason Westlind....Part 3

I have not been able to get as much done on the Hog Bipe as I would like this month. I am still really enjoying this build though. Sig kits really do go together nicely which is a real plus on a biplane. I have not had to buy any extra wood which is a good test to the quality of the kit.

After some final adjustments and fitting on the top wing, I was able to get started on the bottom wing. The bottom wing has taken a little longer as it is built in two pieces and joined together. It has gone together just as smoothly as the top wing though.

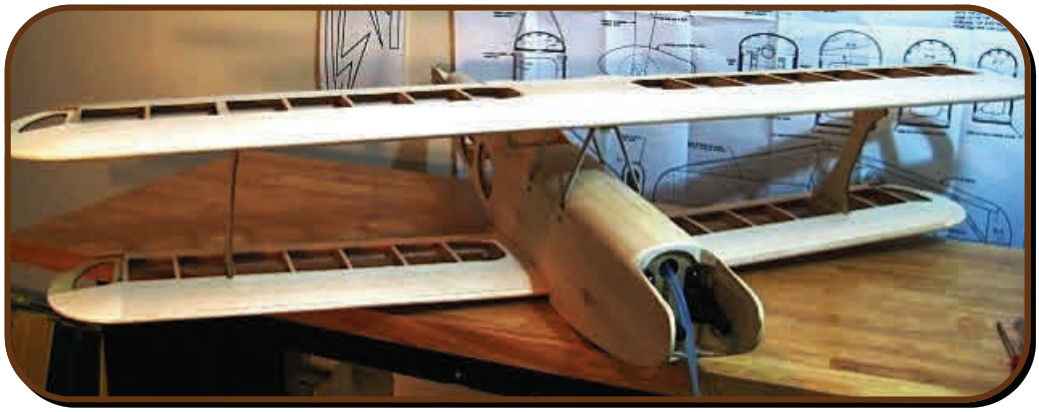
I still have a few things to do before the bottom wing is complete. I still need to finish up the servo bays, add the bottom cap strips, as well as join the wing halves. Once that is completed, I will just need to finish sand everything up and move onto the tail feathers.



I could not resist mounting both wings to the fuselage to get an idea of what it is going to look like. Doing this allows me to see my progress and keeps me motivated.

I am still pushing to be able to maiden my Hog Bipe on Christmas. I just need one more weekend to finish mounting the wings and to complete the tail feathers. I can then start painting the wheel pants, landing gear, and the head rest. I will then move on to the covering process.

Stay tuned for more progress!
Jason Westlind



Flying at Beasley Lake (Fort Rock)

By Greg McNutt

While camping and flying at Alvord in mid-September of this year, I got into a discussion with Joe Stone about similar dry lake beds closer to Bend. Joe told me that Beasley Lake was an excellent spot for some fun flying and beautiful views. Beasley Lake is located a couple of miles from Fort Rock, which is approximately 75 miles (1 1/2 hours driving time) from Bend. We agreed to spend a few days there before winter arrived. With the great Alvord experience still fresh in our minds, we headed for Beasley Lake on October 21st, for three days of dry lake flying and camping. Joe was so eager to get there, that he and Kim left the night before and began texting me about how nice it was when they arrived. He said that the dry lake bed was perfect for our planes and even said that the coyote's were howling my name. I couldn't wait to get there and get some planes in the air.

Our Beasley Lake Campsite & Hangar

Before daylight on the 21st, my son (Kurt), BAM mascot (Diego) and I headed for a spot north of Bend, where we would join up with Bob Ingram, who was going for the day. As soon as Bob arrived, we headed for La Pine where we joined up with Paul Gumbert (from the La Pine R/C Flyers Club). Paul was also going for the day only. As it turned out, Paul would make two additional trips there during the week to fly and have fun. We rolled into camp around 8:30 AM and started to set-up camp and assemble planes. We camped right on the dry lake bed/runway. Just like Alvord, the runway was long, wide and smooth, which made for stress-free flying from the start.

Paul was there to maiden a new plane, while Bob brought three planes to get in the air. Though the morning started out cold (in the high 20's), it quickly warmed up as the sun got higher in the sky. Before long the temps were in the high 60's, with very little wind. Short sleeve shirts were certainly in order. Flying conditions couldn't be better. We certainly took advantage of the opportunity with a lot of air time between the four pilots throughout the day. Joe's folks an friends showed up in the early afternoon, complete with Subway sandwiches and about four dogs. At this point, dogs outnumbered people. With Joe's eight hounds, my Diego and the four other dogs, we had a camp with 13 dogs and 10 people. A great time was had by all on day #1.

Paul Gumbert & Joe Stone preparing for maiden flight

Beasley Lake night life.

As the afternoon turned into evening, the temperature began to drop to a point where a nice fire would be well received. Joe and Kim had collected firewood as they made their way to Beasley Lake a day earlier. I also brought some firewood that I purchased from Ray's Food Place the day before our trip. Between us, we had plenty of wood to last for a week. Though I would only spend three days at Beasley, Joe and Kim would spend a week. There is something special about a warm fire on a cold and star filled night.

While Joe and Kim would sleep in their camper, Kurt, Diego and I would sleep in our large tent. With temps in the low 20's at night, our Mr. "Big Buddy" Heater came in real handy. We had plenty of ventilation, so the heater was safe and kept the temps inside the tent nice and warm throughout the night. Absent a heater, our sleeping experience wouldn't have been as nice.

The next day was much like the first day, cold in the morning, warm in the afternoon with very little wind. Again, a great day for flying. We took a break from flying in the early afternoon to do some exploring. While Joe got on his quad and did some riding, Kurt & I headed for Fort Rock. Fort Rock is a very impressive ancient volcano that jets up four or five hundred feet out of the valley floor. Thousands of years ago, the 40 mile wide valley was once a very large lake. Native American's lived in the many caves at Fort Rock. Evidence suggests that the natives had plenty of food including fish. If you haven't been to Fort Rock, it is certainly worth the trip. Eagles and Falcons also make their home at Fort Rock.

Fort Rock from the valley floor

Joe getting ready to fly his big 150cc plane

Once we were back at camp, it was time to get some more planes in the air. I spent a lot of time flying my Revolver with my 20cc gas engine (VVRC) running very well. Joe spent a lot of time flying is big Cub. I believe he had a 35cc gas engine in the plane. Though they aren't the best aerobatic flyers, you couldn't tell that by the way that Joe flew the Cub. He even let me fly it a bit. What a great flying plane it is. With a long and wide runway, Joe made several touch and go landings. That plane would gently float to the surface at low speeds. Joe would practice touching down on one tire with the plane slightly tilting to one side or another. He would then gently lift it off the runway for another pass, each time, landing on the opposite tire. With such a large runway and with no other planes competing for airspace, we had a great time flying our planes. We both agreed that more Beasley trips were in order.

Joe's giant plane smoke flying!

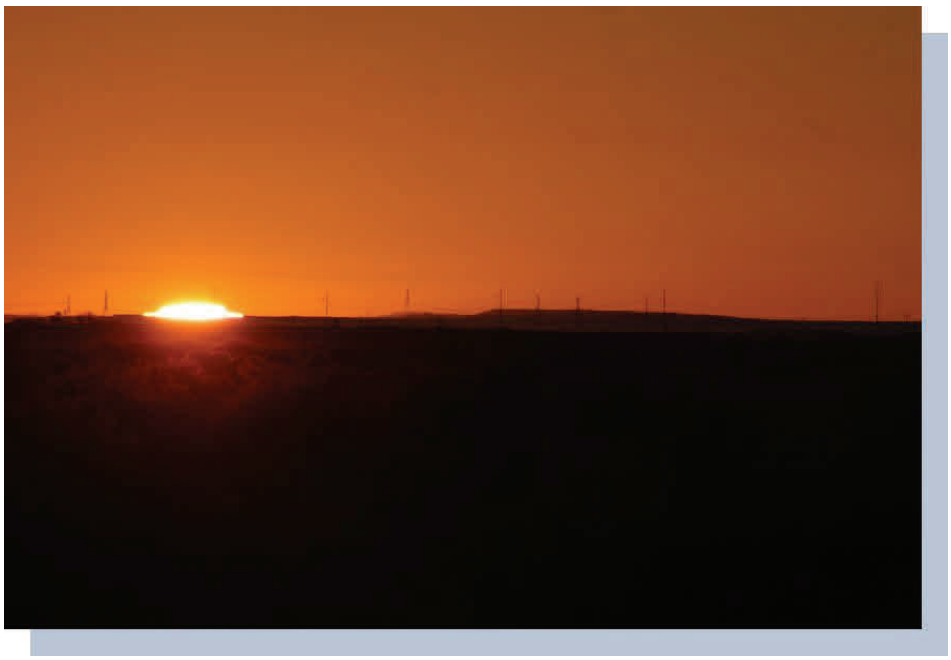
Low pass with the big plane

Horses in the early morning at Beasley Lake

Dry Lake Bed/Runway

We even discussed having a joint BAM & La Pine R/C Flyers gathering at the lake next year. A weekend of camping, flying, exploring and laughter might be a memorable experience.

All in all, Beasley Lake is a great place to camp and fly. I plan to make another trip or two this year. I plan to keep an eye on the weather and then get out there when a sunny and calm day comes our way. I plan on maidening my Wedell-Williams Model 44 (Red Lion) with my 55cc DLE engine there in the near future. Look for emails from me from time to time, with an invitation to join me and others for a day of fun and flying at Beasley Lake near Fort Rock. Happy Flying!



Typical beautiful sunrise

Show & Tell

There was absolutely nothing to show or share at the October meeting! The meetings are not only for business but for us to share and inform each other of fun or interesting stuff, or just show off our stuff. Let's not let the meetings get boring.

OBITUARIES

Rest In Pieces

HOORAY!!! STILL NO CRASHES TO REPORT! EITHER YOU GUYS ARE GETTING GOOD OR THERE'S NOT ENOUGH FLYING GOING ON. GOOD GOING!!!!

Safety Report

Safety is an ongoing process and commitment, and in this report I would like to address some safety concerns regarding micro aircraft, which was inspired by a recent incident at our field. All micro aircraft including quadcopters, helicopters and even gliders need to be treated like any other aircraft in regards to safety.

There have been several incidents of micro aircraft being flown in the pit area or in the safety zone between the deadline and the pilot stations. Under no circumstances should any aircraft, including micros, be flown in clearly defined safety zones. The procedure for taking off, taxiing and landing is the same for all aircraft types and sizes, including micro aircraft or aircraft that do not require an actual runway for takeoff.

For example, just recently while at the field, a pilot was reaching over to remove the glow igniter from a running nitro aircraft, which was on a startup stand, when a micro aircraft crashed into the pit mat missing the pilot and the spinning prop by about 2 feet. The micro aircraft in this case could have easily caused the pilot to inadvertently stick their hand in the spinning propeller or caused a broken prop to strike someone.

The point to be made here is that micro aircraft are just as dangerous as larger size aircraft. They can easily cause someone to lose control of a larger aircraft or be a distraction that leads to unsafe behaviors. They could also cause mishaps because people have to get out of the way, trip, or collide with the micro aircraft flying in a safety zone. Micros may look innocent, but they could potentially cause a large amount of damage.

In a nutshell, please use common sense to ensure all of us can enjoy safe flying at our field. We have a superb group of pilots in our club so let's set a great example for others to follow.

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 intensions 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 January1, 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.