AMA CHAPTER 0244 IMAA CHAPTER 16

MEMBER HANDBOOK

Getting Started in Radio Control
(And an introduction to the Champaign County Radio Control Club)

Introduction:
Thank you for your interest in the Champaign County Radio Control Club (CCRCC). Our club primarily focuses on R/C (radio controlled) model airplanes, though many members participate in other facets of the hobby such as radio controlled helicopters, control line airplanes, R/C cars, boats and model rocketry. In addition to maintaining a site that is safe and suitable for flying model airplanes, one of the club's main objectives is to assist those interested in getting started in radio control. Our club has several members who are eager to aid beginners in construction, model setup and flight training. On Thursday evenings during summer months, club instructors provide free flight lessons using a club-owned training airplane furnished at no charge. All you need supply is a pair of sunglasses and a baseball cap. This is an ideal opportunity to visit the site and inquire about the hobby. Those interested in learning to fly are eligible for free flight lessons until they are competent to solo, but membership in the Academy of Model Aeronautics (AMA) and club membership is required before being allowed to solo.

Membership:
Membership in the CCRCC is required to fly solo at the flying site. Membership fees vary. **Additionally, you must be a member of the AMA** which is the governing body of model aircraft activities and provides supplemental insurance to its members. AMA membership costs from $1.00/year up to $58.00/year, depending upon your age and other options. You may contact the AMA at 800-435-9262 or join on line at www.modelaircraft.org.

Flying Site:
The CCRCC flying site is located just outside Champaign off Route 150 (Bloomington Road) about 2 miles west of Mattis Ave. The gated entrance is on the north side of the road. Visitors are welcome anytime the gate is open, which is most of the time during daylight hours when the weather is nice. The site is located on what is known as"the old landfill" and has a large mowed area with paved runways. Other features include a telephone, storage shed and a sun shelter. The telephone number to the flying field is 398-6805 and the address is 3616 W. Bloomington Rd. When you visit, please introduce yourself and never hesitate to ask questions.

Getting started recommendations:
There are several ways to get started in R/C airplanes. Your chances for success will be greatest if you start with a .40 cu. in. engine ("forty-size") or similar size electric trainer with a wingspan of about 60". The total cost of a complete setup costs around $350.00. A .40-size trainer will provide plenty of performance and durability and will fly for around fifteen minutes per tank of fuel, thus allowing quality instruction time with a flight instructor. Even if you must save for a while, getting started with a .40-size trainer is highly recommended. Trainers are available in both almost ready to fly (ARF) and wood kit form. By "doing it yourself" and building a kit, you will learn more about the model and be more knowledgeable and confident in performing routine maintenance or adjustments during and after your flight training program. For many, building is as much a part of the hobby as is flying. However, if you would prefer not to build or don't wish to dedicate the time required to build a kit, select an ARF model. There are many quality .40-size ARFs to choose from. When ready to move on to your next model, the engine and radio equipment may be removed from the trainer and installed in your next model.

CCRCC MEETINGS:

The club conducts meetings on the second and fourth Monday of each month. All meetings begin at 7:30 PM. From October through April, our meetings are held at Lucille's Hot Dog Stand at Frasca Airport. To get to Lucille's, go west on Airport Rd from Rt. 45 (Cunningham Avenue). Turn right at the sign that says "Frasca Air Museum/for deliveries only". If the gate is closed, you may enter the field through an open area in the fence at the office parking lot, back to the east of the museum entrance gate. From May through September, our meetings are held at the club flying site located at 3616 W. Bloomington Rd.

Meetings on the second Monday of each month begin with business discussion and shift toward general conversation ending with occasional programs pertaining to modeling. Meetings on the fourth Monday are entirely social. Members are encouraged to bring newly completed models to meetings for "Show and Tell". Meeting attendance is never mandatory, but occasional attendance is encouraged. Those interested in getting started in R/C are always welcome and invited to attend a meeting to learn more about the hobby and find out more about getting started.

If you are interested in learning more, or are ready for specific recommendations on what to buy, introduce yourself to any CCRCC member at the flying site or at a club meeting. You may also telephone one of our club officers or contact members:

-Ron Bell 384-1186
-Bill Crawford 840-6100
-Scott Dossett 778-8980
-Tom Griffith 355-6153
-Bert Henne 352-1159
-Dan Kemphues 359-9829
-Mark Overmier 367-7969
-Gerald Sappenfield 582-2850

We look forward to meeting you and helping you get started in this wonderful hobby. Additional information is available on the club website www.ccrcc.info.

Proper Maintenance of R/C Equipment for Safe and Reliable Flying

Radio Equipment

1. Keep your transmitter and antenna clean.
2. Always range-check your airplane before the first flight of every day!
3. If you have analog trims, check to be sure they are properly set before flying.
4. If you have a crash, always send your receiver in to be checked over.
5. Consider sending your transmitter and receiver in for service every couple of years to have them checked over.

Engine

1. Before putting your engine away for the winter, apply "After Run Oil".
2. If you have an engine that you do not plan to use for a while, apply "After Run Oil" and then store it in a sealed plastic bag.
3. At the beginning of the new flying season, run and adjust the engine at home before going to the flying field.
4. If you have a crash, do not turn the engine over with dirt in it. Wait until you get home. Thoroughly wash the engine and carburetor before turning the engine over. Check the crankshaft to see if it is straight. If the engine appears to be OK, mount the engine, run it and then store it with "After Run Oil".
5. It is a good idea to install a new glow plug at the beginning of the flying season.

Batteries

1. Always know the condition of your batteries. This can only be done by cycling your batteries periodically and recording the information. This is most easily done if you put the date on the battery when you receive it. Then when you cycle the battery, list the date and mAh rating.
2. Batteries should be cycled 2 to 4 times per year. It is especially important that you do this after the winter when your batteries have sat unused for several months.
3. If you have a pack that after cycling does not come up to at least 85% of the battery's rated capacity, cycle the battery 3 or 4 times. If the battery still does not come up to 85% of its rated capacity – e.g. a 1000 mAh battery should charge to at least 850 mAh - replace it.
4. Always have a large enough pack to properly operate the number of servos you have in your airplane. As a general rule:
   4 to 5 servos – 500 mAh "AA" battery minimum
   6 to 8 servos – 1000 mAh "AA" battery minimum
   If you are flying an aircraft that has 7 or 8 servos, it is not a bad idea to step up to a "sub C" size battery.
5. When installing the battery in your airplane be sure that the connector from the battery to the switch is secured with tape, shrink tubing or other secure method.

   Common sense maintenance of your equipment can be the difference between a fun day of flying or a day of frustration!

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Flight Box

With the advent of our training sessions on Thursday evenings, I've had the occasion to perform a bit of maintenance and setup on some of our new member's planes. In doing so, I've learned that most newcomers have yet to accumulate the correct tools to perform routine maintenance on their models. Therefore, I've taken an inventory of my own flight box and listed the most important items below. Of course, it can take a long time to accumulate all the tools you need, so don't feel you have to rush right out and buy everything today. Chances are somebody else will have what you need. But, in the mean time, it's a good idea to start accumulating your own tools so you can become self sufficient (besides, sooner or later you'll be flying on your own!). Here is what you should have in your flight box …

Engine Starting Equipment

Fuel (5% to 15% nitromethane content – 5% is adequate)
Fuel filling system such as an electric pump or hand-crank pump with required fuel can/filling fittings and fuel tubing (I know it's a tongue twister, but that's the best description.)
1.5 Volt glow plug igniter or 1.5 volt battery and glow plug clip
Optional: Electric starter and small 12 volt battery (This battery may also be used to operate a 12-volt fuel pump.

Tools

Small crescent wrench or correct-size box wrench for the propeller nut (a 10mm wrench works for most .40-size engines)

-and-

5/16" screwdriver-type socket wrench for glow plugs

-or

Hobby-type 4-way wrench (has sizes for glow plugs and propeller nuts)
Small (#1) Phillips screwdriver
Pliers
Medium (#2) Phillips screwdriver
Small (#4) regular/slotted screwdriver
Small Allen wrenches as required:
- 1/16" is most common for set screws on wheel collars
- 2.5mm is most common for 3mm engine screws

Hemostats (available at the hobby shop – you never know when you'll need them, but when you do …)
#1 Hobby knife with sharp #11 blade (keep tip covered in flight box!)
¼ oz. or ½ oz. of thin or medium CA (glue) for small field repairs

Other

If appropriate, spare #64 rubber bands for wing hold-down (Always store rubber bands in a small container with talcum powder or kitty litter to absorb oil from previous flights).
Spare, balanced propellers of suitable size (10X6) [10" diameter, 6" pitch] propellers are suitable for most .40-size trainers).
Hint: Remove sharp edges from plastic propellers by lightly sanding with 320-grit sandpaper.
Spray cleaner and quality paper towels for cleaning the model at the field.

Take-offs and Landings

Take-off

The take-off is not a maneuver to be done as quickly as possible. The goal is not to get the plane into the air at all cost! The take-off is best done when you accelerate slowly down the runway, allowing the plane to develop some ground speed so that the air moving past the tail has some effect. Accelerating quickly only causes excessive torque that can be difficult to counter, especially with a tail dragger (tail wheel-type airplane).

1. Accelerate slowly.
2. Counter any torque with input of right rudder.
3. Add more throttle until the plane has adequate speed to break ground.
4. Add elevator for a shallow climb-out. Do not get the nose of the plane too high. It could stall.
5. Do not make your turn until you have adequate altitude and airspeed.

Take-offs are optional, landings are mandatory! If the take-off is not going well or does not feel right, stop the plane and start over again.

Practice Exercises for Take-offs

Practice making slow runs down the runway. Do not build up too much speed causing the plane to take-off. Concentrate on keeping the plane in the center of the runway.

If you want to practice keeping the plane in the center of the runway without the fear of the plane taking-off, remove the wing and practice making fast take-off runs down the center of the runway.

Practice these exercises while standing in the flight stations, not from behind the airplane. It is important to gain the required perspective from along-side of the runway.

Practice Exercises for Landings

Practice the placement of the airplane over the runway by making passes over the runway at an altitude of 20'. Fly the plane slowly. Practice making adjustments for the wind. When you can consistently make passes over the runway at 20' you will able to land on the runway too.

Make practice landing approaches but don't actually land. Abort the landing, go around and do it again. As you bring the airplane closer to the ground you will be able to see just how far off of the runway you are.

Throttle Usage

Most modelers do not manage the use of the throttle very well. For many, the throttle is always at "full" from take-off until it is time to land. Always flying the plane fast makes it difficult to relax while you are flying. Throttling back, slowing the plane down will also provide some other benefits.

1. Flying slow is more relaxing.

2. Flying a plane more slowly will often look better in flight, especially if you are flying a scale type model.

3. Flying slowly, the plane is more susceptible to the changes in the wind. This means you will need to make control adjustments to your plane to keep it exactly where you want it. This is very good practice! Flying a plane fast, the plane is less affected by the wind.

4. Aerobatic maneuvers will seem easier if you manage the throttle. A loop should begin at full power but as you reach the top, the power should be reduced to make a better, round loop. Stall turns are also better performed if you remove power as the plane is on the down line.

Refer to Figure 1. (next page) for the landing approach.

Landing Approach

People generally do not spend enough time practicing their landing technique. Knowing how to position the airplane to the runway is crucial to a good landing.

1. Before starting your landing approach, be sure you are standing with your shoulders parallel with the runway.

2. Make a rectangular approach to your landings. Sweeping arcs to a landing are OK but more difficult. Stay with a rectangular approach until you have it mastered.

3. Slow the plane to 1/3 to ½ throttle on the downwind leg of the approach. This will slow the plane making it easier to align your plane to the runway. Lower the speed slightly more on the base and final leg of your approach.

4. When making the final turn to the runway, do not make the turn until the plane is over your shoulder. Trust me ... you will not fly into yourself!

5. Don't just float the plane to the touch down. Carry enough power to allow you to have full control of the plane until you are a few feet off of the ground.

6. Always be prepared for the wind. Make adjustments as needed to keep the plane on line to the appointed touch down spot.

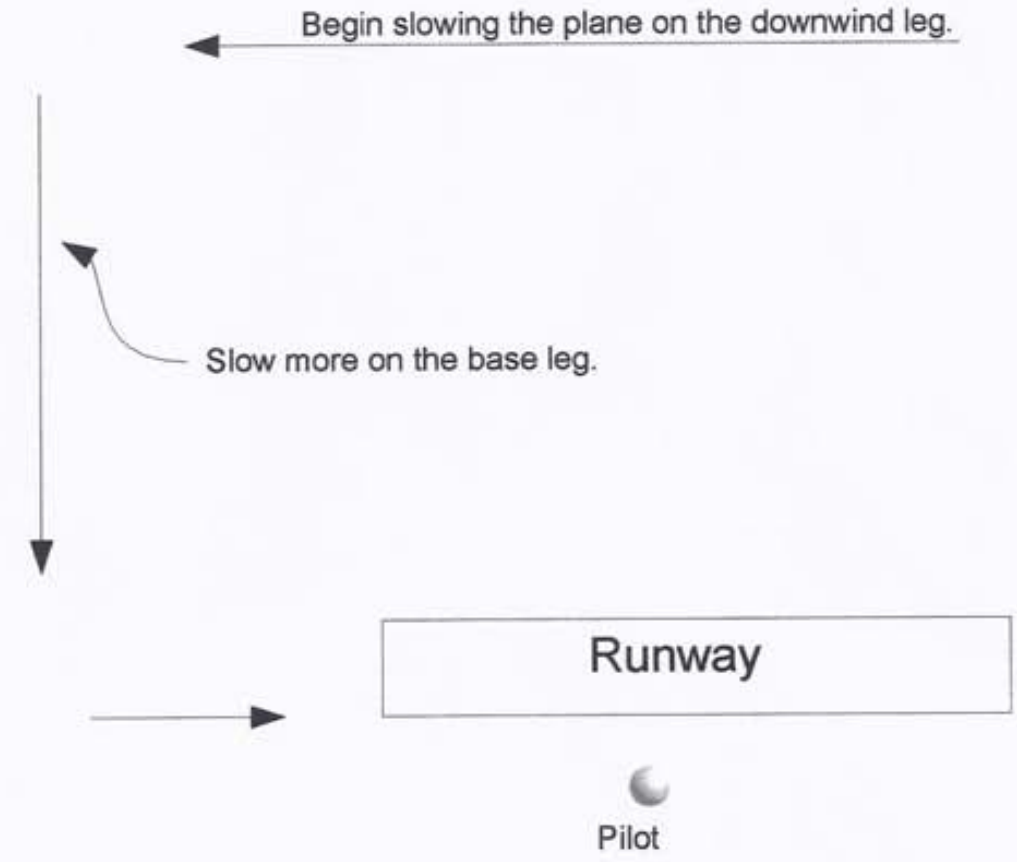

Figure 1, Landing Approach

Safety

The Concept of Safety

The safety of an activity includes many attributes, but perhaps the most important one is having the proper attitude toward safety. Safety is a concept which must be in one's mind when undertaking potentially hazardous activity. This includes formulating the question: “What can go wrong, or how might this activity cause injury to myself or others?” The answers to these questions will allow us to take the next step, which is to develop strategies, practices and habits to prevent an unintended consequence or accident. It is a matter of trying to think ahead, anticipating problems before they occur. One example of this would be the initiation of a takeoff roll from the very beginning of our longest runway rather than from a point closer to the departure end of the runway. If a loss of directional control were to occur and the airplane heads for the pilot stations, you and others standing there are in harms way. It is much better to initiate a takeoff from a position where no one is in front of the airplane.

So we always need to be aware of potential dangers while we are flying or working on our models. Being self-critical is a necessary ingredient in safety. Often, we do things in a certain way just because we've always done it that way. Instead, why not challenge yourself as to what aspects of your hobby you might do differently to improve safety. At home, it might be how you use an electric saw or other tools in your workshop. At the field, it might be how to perform a flight maneuver in a manner which minimizes risk to yourself or others.

Communication is a huge factor in safety! In 1977, one of the worst full-scale accidents occurred at Tenerife Island when a KLM 747 collided with a Pan Am 747 during a takeoff in dense fog. While there were several factors involved, poor communication was right there at the top of the list! A study of other NTSB accident reports reveals that poor communication is often a causal factor in an accident.

Safety when flying model aircraft likewise requires good communication between the participants, especially at the pilot stations where each pilot must be aware of the intentions and activity of the other pilots. Foremost is the need to clear left and right before walking across a runway (or taxiing onto a runway) and to announce in a LOUD STRONG VOICE what you are doing. Also important is for each pilot flying to ACKNOWLEDGE another's announcement; otherwise there is no way for him to know if the announcement was heard. If you receive no acknowledgement of your announcement, the announcement should be repeated. Be mindful of noise that prevents your voice from being heard. To enhance communication, using the other person's name is more effective in getting their attention. Simply put, we are trying to ELIMINATE SURPRISES.

Early in my aviation career, an instructor revealed Murphy's Law to our class, which states: “If anything can go wrong, it will.” It would behoove every pilot to subscribe to this law.

RC Flight Simulators

Simulation is effectively used in many technical areas today - aviation, marine, nuclear power and military operations, just to name a few. Likewise, the simulation of RC flight can provide a great amount of positive transfer in skill development and the learning of concepts. From my own experience, I can say unequivocally that my purchase of a high quality simulator early in my RC

experience has been the best investment I have made in this hobby! For an investment of about $200, I probably have saved myself ten times that amount from crashing in the real world. A high-quality simulator will let you make nearly all of the common mistakes there are to make. Learning new maneuvers can be achieved without risking (sacrificing?) your real aircraft. Working out a maneuver on the simulator before doing it with the actual aircraft only makes good sense. And flying simulators is fun, offering many aircraft and flying sites to choose.

There are several competing companies making RC simulation programs. It is not my place here to favor one over another, but I offer the following guidelines in choosing a simulator:

- Be sure your computer will run the program, i.e. Mac and/or PC. Make sure you have a computer that will handle it, especially with regard to processor, RAM and video card. Check the manufacturer's recommendations in this regard. The manufacturer will usually state both the minimum and ideal computer requirements. If an upgrade of your computer is necessary, a gaming type of video card will greatly enhance the display, everything else being adequate.
- Choose a simulator which has a mode that will allow you to keep the ground in view **at all times**, as that is the mode you will want to use most of the time. Additionally, a mode which allows you to fly in a "Chase" position is very helpful in learning some maneuvers, such as rolling circles.
- The program should at least allow you to change the basic individual aircraft characteristics, such as C.G., control surface deflections, dual rates, sub trims and exponential. The simulator aircraft should fly (or be adjustable to fly) as does its real-world counterpart.
- Other features, such as choosing the type of engine on a particular model, are not as important, but will enhance your enjoyment of the program as time goes by and you want to experiment with different engines, propellers, etc. I choose my propellers for the actual model by comparing the various prop parameters on the simulator for the same or a very similar model.
- Choose as high-end a simulator as your computer will handle. The simulator programs have been greatly enhanced in recent years. Trying to save $50 - $100 by getting an older version will deprive you of the latest refinements, and a year or so down the road you will be wishing you had something better.
- Finally, try out as many simulators as is possible, at a friend's, a hobby shop, E-Fest, the Toledo exposition, etc. A careful analysis will bring dividends, as not all simulators are created equal.

Engine Starting and Testing

Most of our accidents occur at the test stand, so I have much to say about safety in that regard. When first learning to start and test an engine, mistakes will be made but hopefully there is an awareness of those whirling paring knives we refer to as the propeller. Our attention is on what we are doing and we are taught to give the propeller much respect. An instructor is there, watching and keeping us out of trouble. After a few days of this routine, we began to feel comfortable with it all. In fact, it becomes so routine that we can do it almost without thinking. There-in lies the danger! How easy it is to extend one's hand into the propeller arc while removing a glow plug or reaching for something on the bench while talking to someone, or generally not paying full attention to what we are doing. These test stand accidents continue to happen year after year. The following procedures will help to keep you from a trip to the emergency room!

- when removing a glow starter, do it from **behind** the airplane rather than reaching over the rotating propeller. It only takes a few seconds to step around the test stand and you're going to have to do that anyway to pick up the airplane.
- Stand BEHIND rather than in front of or along side of your model when doing high power checks or adjusting the mixture. Placing yourself in the arc of the propeller is dangerous, as props can come off or shed blades. If others are in harms way, have them to move to a safe position before running up the power.
- Before running up the power, look behind your model to see what might be affected by the prop blast and oil spray. Blowing someone's wing off a table won't earn you any kudos.
- When you place your model on the ground, ask yourself where it is going if you accidentally bump the throttle open or a radio glitch causes your engine to suddenly go to full power. This has happened (Murphy's Law), so carry your model to a safe place before setting it down. As you walk to the pilot station, keep your left thumb in front of the throttle to hold it closed. Taxiing in the pits should only be done when the area ahead is clear of personnel.
- When others are starting their engine, it is appropriate to cease all extraneous conversation with them so as not to distract them.

When starting an engine, it will sometimes kick back and run backwards with considerable power, enough power to push it backwards off the stand. This is why it is important to hold onto the airplane until you feel the prop blast pulling the airplane forward into the restraining poles. Another safety issue concerning a kick-back is that it frequently causes the prop to come loose, sometimes coming right off the crankshaft and bounce into one's face (another good reason to wear eye protection). This loosening tendency of kick-backs really isn't too surprising if you compare your engine-propeller combination to the way an impact wrench loosens a bolt; the suddenly applied torque of the kick-back tends to loosen the prop nut. Some of us use a starting technique in which we flip the prop backwards (opposite the normal rotation) to make the engine kick **forward** and hopefully start. This is not a problem, as the kick forward tends to tighten the prop.

I have discovered that kick-backs will often loosen the prop in little increments. That should be a pointer to recheck prop nuts for tightness, maybe not after every kick-back but certainly after a few have occurred. And don't be shy about getting the prop nut tight. Those four-way wrenches are handy for changing glow plugs and other low-torque jobs, but you will find it hard to deliver enough torque to adequately tighten a prop. I find a box-end wrench to be the best tool for the job. So preventing kick-backs is important, and the use of an electric starter is a big help. Apply its torque to the spinner until the engine has thoroughly “caught” and it will go a long way in preventing kick-backs.

Blade failure is another hazard of propellers. When installing a propeller, be sure that no part of the spinner is touching the propeller because vibration and flexing will wear a grove across the blade, causing a stress point. To allow for blade flex, I like to have at least 1/16” of clearance between the blade and the spinner. If you find that the spinner fits too tightly, trim the spinner, not the prop. Gravel nicks in the blades also cause stress points and should be sanded out using strokes **along** the length of the blade, not across it, and be sure to remove **all** of the nick or the stress point will remain. Propellers undergo a lot of stress; rotational forces impart bending, flexing and centrifugal actions on the blades. To illustrate a stress point, try to peel a banana by breaking off the stem. Usually this results in the stem

bending and mashing the end of the banana. Now make a small nick across the stem with a paring knife and it will snap right off.

An often overlooked safety precaution is to protect our hearing against noise damage. How much noise is damaging to the ears? To answer that question scientifically would require an instrumental measurement of sound level with regard to frequency, intensity, distance from the ear, and the duration of exposure. Of course you are not likely to make these measurements at the flying field, so I offer the following: If you have to shout over background noise to be heard in conversation, you are likely being exposed to a dangerous level of noise, especially if the noise is painful or makes your ears ring. Loud noises can permanently destroy nerve endings in the ear – the more destroyed, the greater the hearing loss. Often tinnitus (constant ringing in the ears) develops and may become permanent. We can take a lesson from the skeet and range shooters; they wear hearing protection! As it is necessary to stand close to an engine when doing mixture adjustments, the propeller and engine noise is likely harmful unless you wear hearing protection in the form of ear plugs or muffs available at any hardware store.

Safety During the Take-off and Climb

When I think about what caused my crashes and other mishaps, I am reminded that poor airplane attitude control was a factor in nearly every case. But on a positive note, I can also recall many near-mishaps which were avoided by applying prompt attitude corrections, thus "saving the day". Perhaps the suggestions which follow will help you to avoid those nasty crash sounds we all hate to hear.

As you prepare to taxi onto the runway, check to be sure the runway is clear and that no one is landing or on final approach to land. When it is clear, announce to other pilots that you are taking off. Taxi on to the runway centerline, line up carefully, then **gradually** apply full power all the while steering the airplane with your left hand while it is on the ground. Assuming a trainer airplane with a tricycle landing gear, a slight amount of nose-up elevator on the right stick will prevent wheelbarrowing and improve directional control. Most days, you will have some crosswind (wind blowing across the runway). If so, use sufficient aileron into the crosswind to keep the wings level while on the ground; less aileron is needed as you gain speed. Establish and maintain a slight nose-up attitude to allow the airplane to fly off when it reaches sufficient flying speed. Avoid trying to force it into the air.

So now the airplane has become airborne, and this is where things can become dicey in a hurry. And here is where airplane **attitude control** is what it is all about! These two things are paramount. (1) pitch the nose up to a 10-15 degree pitch attitude, keeping it there with prompt but gentle use of elevator. (2) Keep the wings level with prompt but gentle use of ailerons. Notice that both of these are accomplished with **prompt** but minimal control deflections. Use enough control movement to get the job done but don't over-control. We don't want steep pitch and bank attitudes which will make things happen too fast and make control difficult. If the airplane wanders off the desired heading, turn it back with a sufficient bank angle but no steeper than necessary; 10-15 degree bank angles are usually sufficient. Follow these attitude guidelines until you gain an altitude of at least 100 feet and it will make those takeoffs so much more enjoyable.

As you gain experience in this hobby and move up to higher performance airplanes, I urge you to seek the assistance of a proficient flyer to help you with that first flight. It is a big help to have someone else make trim adjustments on your transmitter while you devote your attention to controlling the airplane.

If it is a new airplane on a maiden flight, having an experienced flyer check the airplane before the flight can avoid some pitfalls. You might even ask them to fly the airplane first in order to iron out any trim and control travel issues before you fly it yourself. In any case, announce to others present that it is a maiden flight. Often, they will stand down from their flying so you are not distracted by other airplanes. As the airplane leaves the ground, you are not sure how well trimmed it will be, so establishing and maintaining the proper attitude can be rather demanding. To practice this scenario beforehand, use a simulator to make takeoffs with the trims deliberately mis-set to extreme positions. Having another person mis-set them while you are looking elsewhere will sharpen your ability to control a grossly out-of-trim airplane as it becomes airborne. This will help you be ready for the unexpected on the day of the test flight.

Compensating for the Effect of Wind

This section considers the effect of wind on the aircraft and applying the proper corrections necessary to achieve an intended track (flight path) over the ground. Probably the most common misconception in aviation is the relationship between an aircraft and the air mass in which it flies! To begin, it is necessary to understand what we refer to as the "wind" is really a term which refers to the movement of the air mass over the ground. Standing on the ground, we feel this relative movement between the air mass and the earth and experience it as a "wind". Likewise, an aircraft on the ground "feels" the wind, so in this instance we could refer to the airplane as a "ground machine". But as an aircraft becomes airborne, it becomes supported by the air mass rather than by the ground, and it no longer "feels" the wind. For example, a balloon "feels" the force of the wind when tethered to the ground, but not after it is released and becomes supported by the air mass. At that time, there ceases to be any horizontal relative motion between the balloon and the air mass, and as the air mass moves over the ground it carries the balloon with it. Occupants of the balloon, being a part of it, do not feel the wind as they fly, only when it is tethered to the ground.

The effect on an airplane is the same, except that the airplane must fly through the air mass with an **airspeed** sufficient to generate lift to support itself in the air mass, unlike the balloon which is buoyant. As long as the air mass movement (wind) remains steady, the airplane does not "feel" the wind. The only wind that an airplane "feels" is the "**relative** wind" created by its own motion through the air mass. The relative wind is always opposite in direction to the movement of the aircraft through the air mass and is entirely independent of the air mass moving over the ground. An extreme example of this would be a situation where the airplane is pointed (headed) straight at the ground. In this case, the **relative** wind would be coming straight up from the ground, opposite the flight path of the airplane.

Refer to Figure 2 (next page). The cruising airspeed (or **relative** wind) of the airplane is 80 MPH through the air mass, regardless of its heading. Notice how the groundspeed has changed between flying upwind vs. downwind. As the power setting is the same in both cases, it is easy to see how the range of the airplane is much greater when flying downwind. This is also referred to as flying with a tailwind, although the airplane does not "feel" any wind pushing on its tail. The airplane is merely getting the benefit of an air mass which is moving in the same direction as the airplane.

Refer to Figure 3. When flying with a crosswind the movement of the air mass causes the airplane to move sideways with a drift angle, but only in relation to its intended flight path over the ground. The airplane is actually flying **straight** through the air mass. To prevent the airplane from drifting from the

North

Airspeed 80 MPH
Groundspeed 95 MPH
Tailwind 15 MPH

Airspeed 80 MPH
Groundspeed 65 MPH
Headwind 15 MPH

Wind 15 MPH

Heading into the wind (upwind) or away from the wind (downwind) has **no** effect on airspeed. Only the groundspeed will change by the amount of the headwind or tailwind component.

Figure 2.

In the illustration below, the airplane pilot is attempting to fly to Point "B" but the air mass (wind) has **carried** the airplane 15 miles north to Point "C" during a period of one hour. Therefore, to get to Point "B", the pilot must initially head to a point which is south of Point "B" to allow for the wind effect. On this new heading, as determined by the pilot, the airplane will be flying **straight** through the air mass but with a ground track which will take it to Point "B".

During this time, the balloon pilot likewise will have experienced a drift to a point 15 miles north, but would not feel the wind blowing in his/her face if he/she were to look south, as the balloon is being **carried** by the moving air mass (wind).

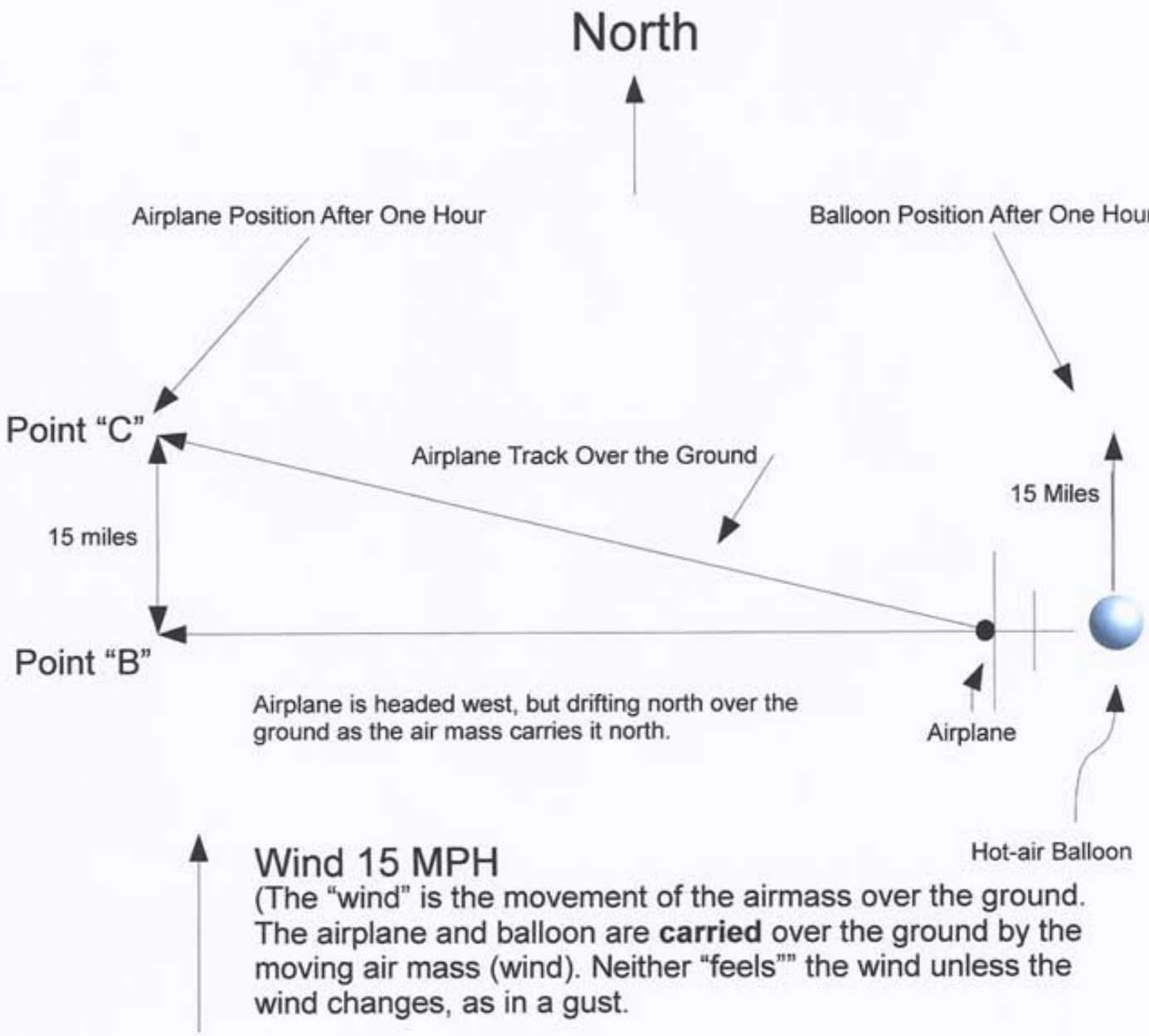

Figure 3.

intended course, we must establish a drift-correction angle which can be calculated based on a known wind condition. In actual practice, we use a trial and error method of trying different headings to find one that will keep us on the intended course line. It is important to keep in mind that there is no need to hold rudder toward the wind, as the airplane is flying straight in the air mass and does not feel any wind from the side. If a chosen drift-correction heading is not keeping us on course, we simply make a coordinated turn to a slightly different heading and try that for a while.

So there it is! Well not quite. **Refer to Figure 4.** How about when our airplane is in a turn and we wish to turn with a constant radius around a point on the ground? Remember that two variables which affect radius of turn are speed (velocity) and angle of bank. Higher speeds cause **much** longer radii, as it is a squared function. Simply put, **twice** the speed will **quadruple** the radius of turn for a given angle of bank. If we are referencing our turn to a point on the ground, then the airplane's **groundspeed** will affect the radius of turn over the ground. And where will the groundspeed be the highest? When flying with a direct tailwind (headed downwind), of course. Similarly, the slowest groundspeed will be when flying with a direct headwind (or headed upwind). So it becomes a matter of preventing the turn radius from elongating when flying with a tailwind (downwind) by using a relatively steep bank angle to compensate for the high groundspeed. Similarly, when the groundspeed is slow, we need a relatively shallow bank angle to compensate and prevent the turn radius from being foreshortened. As the airplane flies the circle, we keep a constant radius by varying the bank as the groundspeed changes during the turn. This is all very simple if you just remember: the downwind heading is the steepest bank in the turn, and the upwind heading is the shallowest bank in the turn. Of course, it takes practice! In a strong wind, the bank may vary from 5 degrees on the upwind heading to 60 degrees on the downwind heading. (If you're not comfortable with a 60 degree bank, then use a longer radius.)

The wind definitely creates other problems for us as it gets stronger. This is because irregularities of the terrain, objects such as trees and buildings, berms, uneven heating of the earth surface, and the gustiness of the wind all create updrafts, downdrafts, and rotational swirls of the air which the aircraft can definitely “feel”, much like a kayak running a white water river. And since the aircraft can feel these **changes** in the wind, it is now correct to say that the wind “pushed” the aircraft up, down, sideways, or created sudden changes in its attitude, altitude, airspeed and lift. To more effectively control an aircraft under windy conditions, it is **strongly** advisable to tack on a little extra airspeed during a climb from the runway and while making an approach to a landing. Using some power during an approach to land will enable you to make an approach with a normal descent angle (rather than with a steep approach in a power-off glide) and will also provide better elevator response on most airplanes. Too shallow an approach should be avoided too, as there is a great tendency for the airspeed to get too slow by underestimating the considerable amount of power required to maintain a safe airspeed.

Hand-Launching Airplanes

Many of the airplanes on the market have no landing gear and must therefore be hand-launched. Some of these are high-performance machines, usually powered with a ducted-fan motor. Upon release, there is some uncertainty as to which way the airplane will go until it accelerates to a climb speed. To avoid scaring, if not injuring, someone at an adjacent pilot station, the following guidelines are recommended:

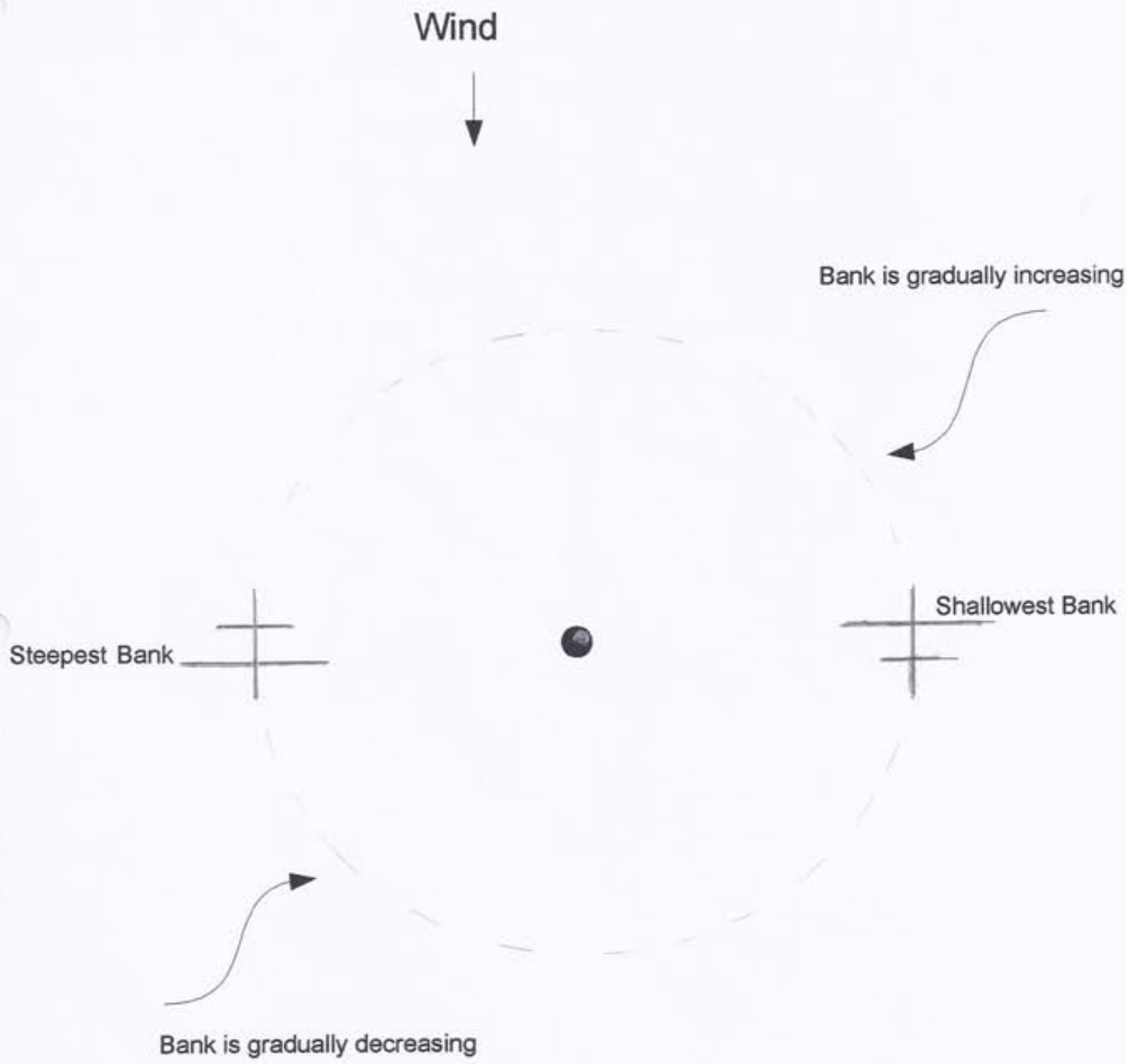

Figure 4. Flying a Turn Around a Point

1. When traffic is taking off and landing to the south, (south wind), hand launching should be from a position south of any other pilot station in use, and the launch should be made while standing on the runway. This will often dictate flying from the southern-most pilot station. Of course, be sure the runway is not in use and announce your intentions.
2. When traffic is taking off and landing to the north (north wind), hand launching should be from a position north of any other pilot station in use, and likewise, the launch should be made while standing on the runway.
3. With westerly winds, hand-launching should be made into the wind while standing west of the desired pilot station.
4. With easterly winds, hand launching should be from the grassy area well north of the pilot stations, being mindful of anybody in the helicopter area. Discussing and coordinating your plans with those flying helicopters is essential to prevent surprises and a contentious situation.
5. Control-line fliers also use this area occasionally, so discussion to work out a shared use of the space is essential.
6. If possible, have a competent assistant launch your model, making immediate control of it more assured.

The key elements to this are: (1) to anticipate where your model might errantly go during a hand launch and avoid the possibility of "buzzing" somebody, (2) good communication, and (3) using good judgment and adapting to the situation and adjusting your procedure to achieve a safe operation. By announcing your intention to launch and where you intend to do it, we can all be spared an unpleasant surprise. **And please realize that anytime you are standing west of the pilot stations you are in the takeoff and landing zone, so be sure to announce that you are "ON/CROSSING THE RUNWAY".**

Three-Channel Airplanes

Most indoor and a few of the outdoor slow airplanes are designed without ailerons, thus they normally operate with only three channels in use on the transmitter. Such designs have enough dihedral in the wings to permit in-flight turns to be made with rudder alone, as the skidding action produced will cause the airplane to roll into a bank for the turn. On these transmitter set-ups, the rudder channel is on the right-hand stick of the transmitter, giving one the feeling he/she is operating non-existent ailerons in flight while actually operating the rudder. We also find ourselves steering the airplane on the ground with the right-hand stick rather than using the left-hand stick as we would do with a four-channel airplane, thereby setting up a bad habit which will tend to carry over to the day when we are again flying our four-channel airplanes. The dormant left hand has, for months, been used only for throttle control. So it should come as no surprise that, upon returning to our four-channel airplanes, we will have erratic directional control while attempting to steer with the right-hand stick.

The solution to preventing this bad habit is to NOT steer those three-channel airplanes on the ground with the right-hand stick. How so? Consider the following possible solutions. (Some may not be feasible, depending upon your transmitter capabilities.)

1. The best solution is to add ailerons to your airplane, upgrading to a four-channel receiver and using a four-channel transmitter. This will not be feasible in many cases; if so, proceed to the next step.

1. On many four-channel transmitters, it is possible to use a mixing feature which will permit the use of either stick for rudder control. With this, you can steer the airplane on the ground with the left stick, and make turns in flight with the right-hand stick.
2. If, for whatever reason, the rudder will not function with the left stick, you might hand launch your takeoffs and *attempt* to steer the airplane on landing rolls by using the inoperative left stick. Of course, this stick is non-functional so it can't prevent a ground loop, but at least you will be reinforcing a correct habit rather than establishing a bad one!

By following these suggestions, you might find out in the spring that your four-channel flying starts out much better, and that directional control problems in the past were not so much being rusty as having developed a bad habit.

Batteries

The "care and feeding of batteries" is very much a safety issue. As this is a lengthy subject unto itself, be mindful that I am not attempting to provide all of the information you must know regarding batteries, but enough to alert you to the need to explore authoritative sources of information on the several types of battery chemistries we use in this hobby. Three commonly used batteries used in RC flying are: nickel cadmium (NiCad), nickel metal hydride (NiMH), and lithium polymer (LiPo). Each battery type has advantages and disadvantages for particular applications - another topic to read about. Each requires a charger designed for that particular type. The more exotic chargers are usually designed to charge all three types but must be configured for the battery in question. Be aware that new batteries with different chemistries are being introduced on the market; one must learn to handle each type appropriately. Common errors include: re-charging or discharging at too high a rate; use of the wrong charger (or wrong charger setting) for the type of battery; unbalanced cells; over-discharging, causing polarity reversal of a cell within a battery pack; and physical damage to a battery. Bear in mind that lithium batteries, while very light and efficient, are the most hazardous and should never be recharged without placing them on a non-combustible surface or in a suitable container, and either remaining in the room with them or placing them in a location where a fire or explosion will have no great consequences. Having said that, here are a few guidelines that generally apply to all batteries.
First, we don't want our battery to ever become discharged in flight to the point where the receiver ceases to function. Most of the "electric" aircraft have a low-voltage cut-off circuit which will still allow control of the aircraft even though the battery will no longer run the motor, thus permitting a controlled but non-powered landing. Glow or gas engine-powered aircraft rely on the battery to remain above a critical voltage for the radio receiver; once it drops below that voltage you will be helplessly watching your aircraft crash. So limit the number of successive flights within a safe envelope for your particular battery. Between flights, check it with a voltmeter designed for that purpose if you have any doubts.

Recharging of batteries should take place **not more than** one day prior to the intended flight, as batteries will self-discharge while sitting idle, particularly those of the NiMH chemistry. As you acquire several aircraft (and of course several batteries), you will find a need to invest in a multi-task sophisticated charger which will perform a number of tests on batteries of various chemistries. Only by periodically testing a battery for serviceable capacity can you be assured it will not likely fail in flight.

The following web site will be helpful on the subject of batteries. A Google search will reveal many others, but this is one of the best. http://www.batteryuniversity.com

AMA CHAPTER 0244 IMAA CHAPTER 16

CCRCC Field Policies - Updated 01-10-13

1. Models may be flown Monday through Saturday from 8:00 AM until dark and on Sunday from 9:00 AM until dark (this means no running of gas or glow engines before these times).
2. The entrance gate to the flying field will remain open while any club members are present. The gate cable and padlock should be re-locked even while the field is occupied and the gate is open. The last flyer to leave the facility is responsible for closing and locking the gate.
3. **While flying or visiting, park only in the car parking area. The small parking area near the shelter is intended for temporary parking only while unloading and loading your equipment. This policy is to be observed even when others are not present.**
4. All trash is to be disposed of in **the outside trash containers only**. Empty aluminum cans and plastic bottles are to be deposited in the containers located in the club house that are intended **solely** for that purpose (those items will be recycled).
5. A portable potty house is provided all year round.
6. Upon leaving, make certain the refrigerator door in the club house is closed, all lights are turned off, and the club house window and doors are **closed and latched**. **Do not lock the walk-in door.**
7. If using the club's gas grilles, make sure all valves are turned off and the grilles are cleaned when finished.
8. Keep the entire site clean by checking the area and discarding rubbish before leaving.
9. Cigarette butts are **NOT** to be discarded on the ground. Use the ash receptacles provided at the club house.
10. **If ever asked by a fellow CCRCC member to abide by any of these rules, kindly comply without becoming defensive. It is easier for one to look the other way than it is to confront an offender. This must be appreciated and kept in mind. Similarly, use tact and be polite when reminding others to abide by the rules.**
11. The Club is **obligated NOT to fly any glow, gas, or electric powered ducted fan model aircraft** during Graveside and Memorial Day services at the cemetery. Electric powered slow flyers are permitted to fly. The dates and times of the services will be posted on the Club House door. Stop flying 15 minutes before the posted start time and wait 45 minutes after the posted start time to fly again. It is a good idea to drive to the cemetery to make sure the services are over before resuming.
12. All pilots must abide by the most recent edition of the Academy of Model Aeronautics National Model Aircraft Safety Code. These rules are posted in the member handbook and the club house.

AMA CHAPTER 0244 IMAA CHAPTER 16

CCRCC Flying Field Rules - Updated 01-10-13

1. Only current CCRCC members with current AMA membership are permitted to fly at the field. Guest pilots with current AMA membership are permitted to fly on a temporary basis if accompanied by a CCRCC member. Proof of AMA membership is required of guest pilots.
2. Frequency Control is in use at all times. All pilots using 72 MHz transmitters will display their current CCRCC and AMA membership cards on the frequency board while flying. Pilots using 2.4 GHz transmitters will display their CCRCC and AMA membership cards visibly on their person or radio when flying. Badge holders for guests will also be provided in the CCRCC bulletin board in the clubhouse.
3. **Pilots must use one of the (5) designated pilot stations. Exception: Pilots flying park flyers or gliders may use the area to the Southeast of the field along the fence, and when there is no Helicopter activity, they may use the area Northeast of the club house. No more than two (2) persons are allowed with the pilot when flying.**
4. All pilots, when flying, must be no closer to the runway than the existing pilot stations. Pilots are not permitted on the runway unless placing or picking up a model before or after the flight. Standing behind the model during takeoff is discouraged. Walking across the runway in order to land is not allowed.
5. **Flying over the taxi/pit area, spectator area, or the parking area is NOT permitted. Flying behind the fence is not permitted. Flying of fixed wing aircraft to the East of the parking area is not permitted. Flight over the access road to the south is discouraged. Helicopter flight over the parking lot is prohibited.**
6. **Flying over the interstate highway to the North and Northeast, over the cemetery to the West, and over the houses to the Southeast is prohibited. (Flying should be restricted to the tree line on the West side of the field). Complaints from over-flying models or models crashed near residences may be the greatest threat to losing the flying site. These rules must be strictly adhered to.**
7. **No extended engine running is allowed in the pit area. When needing to run an engine for an extended time, use the Southeast corner of the field, not the pits.**
8. Modelers are encouraged to take noise reduction techniques into account when designing and/or building models. The Club's goal is to limit aircraft noise to 98 dBA at three meters. Noise exposure is a factor for both retention of the club flying site and modeler hearing loss.
9. When starting and running engines in the pit area, modelers should position their aircraft to minimize risk to others from debris, runaway models or propellers.
10. Taxi your model with extreme caution. Be aware that models are subject to the same "glitches" and pilot error on the ground that they are in the air. If the pits are occupied, **Do Not** taxi in this area.
11. **The work tables are provided for temporary work on models. They are not for storing your aircraft or equipment during a flying session.**
12. All models must conform to the AMA Safety Code. **REMINDER**: You must have your AMA number/or your name and address somewhere on or in your plane where it can be easily found.
13. **There is a fifteen (15) minute limit on flying time if others are waiting for a radio channel or pilot station. Please be courteous and monitor your flying time so that everybody has a chance to fly.**

CCRCC Flying Safety Guidelines

1. A range test, both with the engine off and with the engine running should be done before the very first flight of a new model. It is also a good idea to do this range test before the first flight of every day. Refer to the instructions that came with your radio system. (Generally, most systems should operate at a distance of 100' from the model with only the first segment of the TX antenna extended). Using a voltmeter to monitor the receiver battery is also a good idea.

2. When another member is starting or getting ready to start his engine, discontinue conversation so that he can concentrate and will not be distracted.

3. Before starting your engine, make sure all associated gear (starter, transmitter) are within reach and placed where intended. Be deliberate, not casual in your actions. If using a neck strap, be certain it or any loose clothing will not become caught in the propeller. Never stand in the propeller arc of a running engine

4. For planes that have larger engines, an assistant or a mechanical holder is advised to hold the model while starting.

5. Always test the operation of the control surfaces before every flight to be certain that both the transmitter and receiver are on, that the controls operate and that they operate in the correct direction. Also listen for abnormal noises coming from the servos and control surfaces.

6. Observe the traffic pattern of previous flyers before entering the runway and unless conditions have changed, that same pattern should be adhered to. Usually but not always, the flight path is determined by the prevailing wind direction. Similarly, close-in maneuvers should be done in the pattern" following the same direction as takeoff..

7. If there are other pilots in the air, communicate with them by announcing your intentions when entering the runway and "**TAKING OFF**". Lift-off on your model should not take place until your plane has cleared all pilot stations. When flying with less experienced pilots, it is a good idea to announce when you will be doing a low, close-in fly-by over the runway so as not to startle them. **Never** do a low fly-by in the direction opposite the traffic pattern. If there are other pilots in the air, you should announce when you are "**LANDING**".

8. **If you have to cross the flight line to retrieve a model that has crashed or stuck in the grass, make sure the way is clear, clearly announce your intentions by announcing "On The Field" to other pilots and make certain they acknowledge**. Be courteous by moving quickly and taking the most direct path to get behind the line of flight.

9. Do not be intimidated by other pilots who have larger, faster, louder, or more expensive models than you. As a paying, rules-abiding member, you have the same rights to airspace as any other member. Similarly, if you would rather land than become distracted by another model, this is your prerogative.

10. Refrain from taking off across the runway (especially if this against or across the established pattern). Never hand- launch a model from the pits of from behind the flight line.

11. Flying alone could be dangerous. If flying alone, it is a good idea to check that the Club's telephone is operating, or to have a cell phone.

12. If you think there is something wrong with your model, there probably is. Trust your instincts.

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.

C. **FREE FLIGHT**

1. Must be at least 100 feet downwind of spectators and automobile parking when the model aircraft is launched.
2. Launch area must be clear of all individuals except mechanics, officials, and other fliers.
3. An effective device will be used to extinguish any fuse on the model aircraft after the fuse has completed its function.

D. **CONTROL LINE**

1. The complete control system (including the safety thong where applicable) must have an inspection and pull test prior to flying.
2. The pull test will be in accordance with the current Competition Regulations for the applicable model aircraft category.
3. Model aircraft not fitting a specific category shall use those pull-test requirements as indicated for Control Line Precision Aerobatics.
4. The flying area must be clear of all utility wires or poles and a model aircraft will not be flown closer than 50 feet to any above-ground electric utility lines.
5. The flying area must be clear of all nonessential participants and spectators before the engine is started.

Academy of Model Aeronautics

5161 East Memorial Drive
Muncie, Indiana 47302
(765) 287-1256 – Business
(765) 289-4248 – Fax
(800) 435-9262 – Membership Services
http://www.modelaircraft.org

2012 INSURANCE SUMMARY – THE FACTS ABOUT AMA'S INSURANCE BENEFITS
For Individual Members

Please report all incidents to AMA as soon as possible!

Commercial General Liability Coverage (Effective March 31)

- AMA Liability Protection applies to bodily injury or property damage caused by an AMA member. Any AMA member who causes an accident resulting in an injury must report that accident immediately to AMA HQ.
- Applies to accidents arising from the modeling activities of **model aircraft, rockets, cars and boats**, in accordance with the AMA NATIONAL Safety Code(s).
- The per occurrence limit of coverage available by this policy is $2,500,000 involving bodily injury and/or property damage. These limits are for claims occurring during the policy period. Coverage is provided only for accidents arising from the model activities.
- A separate policy covers participation in FAI events outside of the United States and Canada. This policy has a $1,000,000 limit.
- There is no coverage for injury to a member to his own family (Household and Relative(s) living in the member's household) for claims or suits.
- The policy does NOT cover business pursuits; that is any activity that generates income for a member beyond reimbursement of expenses, except this business pursuit exclusion does not apply to individual members providing modeling instructions for pay to AMA members.
- AMA insurance is "excess" to any other applicable coverage, such as homeowner's.
- Has a $250.00 deductible (property damage only), which is the responsibility of the AMA member causing the accident.

Accident/Medical Coverage (Effective January 1)

The Accident/Medical coverage applies to injuries while engaged in model activity regardless of who causes the accident. It reimburses an AMA member in accordance with policy terms and conditions for only medical expenses (also the beneficiary for loss of life) incurred within 52 weeks of the accident. The Accident/Medical coverage works as follows:

- Provides up to $25,000 for medical expenses and $10,000 for dismemberment or death.
- Insures AMA member directly – does not require claim action by another person.
- Pays for eligible expenses upon submission of bills or other documents certifying cost of treatment and that injury was caused by model activity.
- Reimburses medical expenses only after submission to any other health plan, including Medicare.
- Has a $750.00 deductible.

Fire, Vandalism, and Theft Coverage (Effective March 31)

- Provides up to $1,000 for loss of aircraft models and accessories, including RC equipment. All theft loss claims must be accompanied by a police report. NOTE: Theft has to occur from a locked vehicle or residential dwelling. There must be physical evidence of violent forcible entry.
- Has a $100.00 deductible.
- Is "excess" to any other applicable coverage, such as homeowner's.

To report an incident, request claim forms, or inquiry about filing procedures please call (765) 287-1256 or e-mail claims@modelaircraft.org. Regular business hours are Monday—Friday, 8 am—5 pm EST.

To report an incident that involved serious injuries to individuals outside our regular business hours, please call (765) 749-9210.

This information is merely a brief summary. Complete details of coverage, reporting periods, and exceptions are contained in master policies available at www.modelaircraft.org/documents.aspx, documents #500-L, 500-LA, 500-M and 500-N.

Academy of Model Aeronautics

5161 East Memorial Drive
Muncie, Indiana 47302
Claims Contact Information
(765) 287-1256 – Business
(765) 286-3303 – Fax
claims@modelaircraft.org

How to file an insurance claim

1. The AMA member causing the accident should call AMA Headquarters and provide an initial report of the incident. Serious injury and major property damage losses *must* be reported immediately. AMA will forward the appropriate claim form with specific instructions to the member, club officer, and/or Contest Director (if the accident occurred at a sanctioned event).

2. The AMA member returns the *completed* and signed form *and* any necessary documentation required for the claim. Upon receipt of the necessary documentation, AMA will forward the information to the appropriate independent claims adjuster/Third Party Administrators (TPA) who will review and process the claim.

NOTES:

AMA insurance is "secondary" or "excess" insurance. So in addition to notifying AMA Headquarters of the accident, this also means an AMA member *must* first file the incident through any other insurance available to him or her: i.e. homeowners, renters, automobile, health insurance, etc. If the primary insurance covers the total claim amount, the member should let the AMA know so that we may close the file.

Claims are handled in the order in which they are received. Members are asked to please be patient during the summer because this is our peak time for claims. Claims are processed as quickly as possible.

Deductibles: All deductibles are the responsibility of the insured member ($250 for property damage, no deductible for bodily injury, $750 for medical claims, and $100 for Fire, Theft, & Vandalism claims). This deductible is separate from any other deductibles involving primary coverage for other insurance companies (typically homeowners or group health through employers).

Final decisions on what is covered and how much is paid are made by an independent Third Party Administrator (TPA) based upon the terms and conditions of the appropriate policy.

AMA members receive up to three types of insurance coverage with their membership as a benefit:[1]

- *Accident/Medical (AD&D)*: this coverage applies when a member injures himself or herself in a model-related incident.

- *Commercial General Liability (CGL):* this coverage applies when a member damages someone else's property or injures someone else. Damage to a member's own property is *not* covered since you cannot be liable to yourself, and there is *no* coverage if a member injures someone in his own family.

- *Fire, Vandalism, and Theft (FTV):* this coverage applies when a member's aircraft and/or RC equipment is damaged, destroyed, or stolen. Theft coverage applies *only* when the theft is from a member's locked vehicle or dwelling (including member's garage).

Coverage under any of the above policies is subject to actual terms and conditions of the policy. A specimen copy is located in the AMA Documents section of the AMA website.

[1] Park Pilot members only receive liability coverage up to $500,000 as a benefit through their Park Pilot membership. AD&D and FTV are not included.

AMA CHAPTER 0244 IMAA CHAPTER 16

ACCIDENT DOCUMENTATION POLICY

Note: CCRCC assumes no responsibility or liability, in whole or in part, for any injuries or property damage resulting from any accident, incident or other club activity, regardless of the cause. All liability and litigation is strictly between the parties involved.

In case of an accident, each party should record the following information:

- Date and time of occurrence.

- Other party's name, address, telephone number, AMA number and expiration date.

- A brief description of the circumstances surrounding the accident.

- Description of injuries and/or property damage.

- Names, addresses and phone numbers of any witnesses.

AMA insurance is “excess” to any other applicable coverage, such as homeowner's. AMA insurance has a **$250.00 deductible for Property Damage**, and a **$750.00 deductible for personal injuries**. See the latest AMA Insurance Summary for an explanation of coverage.

Any AMA member who causes an accident resulting in an injury or property damage must report that accident immediately to AMA headquarters.

ACCIDENT REPORT FORM

Date and time of occurrence: _____ _____A.M. / P.M.

Other Party's name: _____
Address: _____
Phone: _____
AMA Number: _____ Exp. Date: _____

Brief description of circumstances: _____
_____
_____
_____
_____

Description of injuries and/or property damage: _____
_____
_____
_____
_____

Witnesses:	Name	Address	Phone
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

Note:

- AMA insurance is “excess” to any other applicable coverage, such as homeowner's.

-Any AMA member who causes an accident resulting in an injury or property damage must report that accident immediately to AMA headquarters.

- CCRCC assumes no responsibility or liability, in whole or in part, for any injuries or property damage resulting from any accident, incident or other club activity, regardless of the cause. All liability and litigation is strictly between the parties involved.