



Presents

**Everything You Always Wanted
To Know About R/C Modeling
But Were Afraid To Ask**

By Ed Irons & Gerry Armstrong
January 18, 2009

Come Fly With Us!

Radio Control Model Aircraft

Information Sheet

So, you're thinking of flying radio controlled miniature aircraft. Well, **DO IT!!** You'll become involved in an intensely interesting hobby, learn more about aerodynamics and get to meet some very interesting people who may well turn out to be life-long friends.

The very first thing you must do is join the Academy of Model Aeronautics (AMA). Membership applications can be found in several ways. You can contact the AMA by phone (1-(800)-435-9262), FAX (1-(765)-741-0057 or by computer (<http://www.modelaircraft.org>). They will be glad to send you a membership form. The membership forms can also be found at your local hobby shop, R/C Club or in the latest issue of *Model Aviation*, the official magazine of the AMA. Copies of this magazine may also be found in our local hobby shops or just ask any AMA member. He's sure to have a copy on hand.

The reason that it is necessary to join the AMA is that a part of their membership package is insurance coverage for liability that you may incur while flying radio controlled or other types of miniature airplanes. Without this coverage you cannot join any AMA chartered R/C Club, fly at their field(s) or compete in sanctioned competition. You should mail the membership application as soon as possible and be sure to sign it or it will be returned for your signature.

1. Preliminary steps:

- a.. Learn as much about the hobby as possible. There are several good magazines that can be purchased from hobby shops and news stands. *Model Aviation* (AMA publication), *Radio Control Modeler - RCM*, *Model Airplane News - MAN* and *Flying Models* are publications that immediately come to mind. Most of these magazines contain anthologies of "How to" books that can be used to help you decide.
- b. One resource you probably haven't considered is your local public library. You can go there and see what they have on model aircraft and find out which branch library has the books. And best of all, the library is free, provided you return the books.
- c. Another great source of model aircraft information is on the Internet. The following are a few interesting WEB sites:

www.modelaircraft.org
www.irks.org
www.towerhobbies.com
www.flyrc.com
www.rcuniverse.com
www.airage.com/man/
www.rcmagazine.com

- d. Magazines list several good mail order companies. The Tower Hobby Catalog is a good place for reference material and has much material that is beneficial to the novice. Mail

order purchasing is fine, if you know what you're getting. Everything you need, to get started, can be purchased from your favorite hobby store and best of all, you can see it before you buy it. Once you know what you're doing, then you can mail order, if you like.

- e. Visit the local hobby shops. The beginner is better off buying supplies from a hobby shop. They have all of the materials to get you started and will gladly answer questions you might have. Hobby shops, in the immediate area that inventory R/C aircraft are:

Ernie's Hobby Shop
631 S. Apollo Blvd.
Melbourne
724-5257

Esprit Model
1240 Clearmont St. NE
Unit 4
Palm Bay
729-4287

HobbyTown USA
4335 West New Haven Ave.
West Melbourne
574-0951

Space Coast Hobbies
2135 Palm Bay Rd.
Palm Bay
722-3696

Spare Time Hobbies
1803 N. Cocoa Blvd
Cocoa
636-1808

Orlando also has several fine hobby shops.

Bob's Hobby Center
540 N. Goldenrod Road
Orlando
(407) 277-1248

Colonial Photo and Hobby
934 N. Mills Ave.
Orlando
(800) 841-1485

Graves Hobby Shop.
4814 North Orange Blossom Trail
Orlando
(407) 277-1248

2. Buying a radio system:

- a. Which type; AM, FM, PCM, or 2.4GHZ?? Although FM and PCM are still available, 2.4GHZ systems are the latest in R/C technology and are less susceptible to interference. Several major manufacturers have discontinued making AM systems. In our Club, and other AMA sanctioned clubs, you can only use narrow band systems with 1991 certification. Be sure there is a gold certification sticker on the back of the transmitter. This is for the safety of your airplane.
- b. Two stick or single stick?? About ninety-five percent of all flyers use two stick. Single stick sets aren't usually stocked by hobby shops but they can be ordered.

- c. Which frequency to select?? Check with the clubs in your area or the one you want to join and see which channels are least crowded or have known interference problems.
 - d. How many channels (four or six)?? While four channel systems are less expensive, there is one significant disadvantage. Four channel systems don't have dual rate controls. This allows you to have two different sensitivity rates, selectable by moving a switch. In addition, if you find out that flying R/C aircraft is not for you, the six channel system would be easier to sell. If at all possible, buy a radio that can support a trainer cord. This has been proved to be the safest and quickest way to learn to fly.
 - e. Local hobby shops have very reliable systems for sale or perhaps you can locate a good used system from a R/C Club member.
3. Buy a TRAINER (No advanced types please). The type of plane to purchase should have a high mounted wing with a flat bottom airfoil and tricycle landing gear. Save the tail draggers for future projects. It should be capable of supporting at least three channels (rudder, elevator and throttle) with optional ailerons. The suggested engine size is a .40 cubic inch displacement.

You can:

- a. Buy an already flown airplane from an R/Cer who has graduated to the next level.
- b. Buy an ARF (Almost ready to fly). They will have instructions on how to assemble, but it usually takes more time than they say it will and this type of plane is usually more difficult to repair.
- c. Buy a kit.
 - (1) Before you start to build, first study the plans and if it has an instruction booklet, go over it so that you will understand each step as you build. Some good kits to start with are the Goldberg Eagle, Great Planes PT 40 and Midwest Aerostar. Talk to your local hobby shops, there are numerous trainer kits to choose from.
 - (2) To answer any building questions that may come up contact an experienced builder for advice. Don't proceed if you don't know! Experience is the best teacher, but it also can be the most expensive. Good advice usually doesn't cost anything, just the effort to ask.
 - (3) Try to build the airplane as light as possible. Your airplane will be a lot easier to fly. A model cannot be made "Crash Proof" by reinforcing everything. Don't go overboard on your first one. Save the "Shining example of craftsmanship" for future projects, after you learn to fly.
 - (4) Go by the kit recommendations on hardware and accessories. As to an engine, get the largest size recommended. You can always throttle back if you don't need the power.

- (5) Covering. Use the iron-on material such as Monokote or Ultracote, etc. For this you will need a Monokote iron. A heat gun would also be very beneficial; but not absolutely necessary.
4. Accessories. Other goodies that will be needed are a starting battery (1.5v), glo-fuel, some electrical leads and a filling bulb. Until you're sure that R/C is for you, don't invest in a flite-box, electric fuel pump, electric starter, power panel, etc.
 5. Cost. R/C aircraft are like any other hobby. The start-up cost is high. What we're talking about is \$300 to \$400 to get started, without all the frills, bells and whistles. Once you get established, the usual expenses will be for fuel, glow plugs and other operating supplies.
 6. When your airplane is ready to fly, charge the batteries and bring it out to the field on a Saturday or Sunday. Tell them that you are a beginner and ask an experienced R/C pilot to give it a safety check. If it passes the safety check have an experienced pilot test fly it.
 7. **WARNING: Beginners should absolutely never try to fly by themselves.** All R/C pilots have been where you are and are always eager to help a new pilot. So don't hold back now that your plane is ready. Ask a qualified instructor to teach you to fly so that you can start enjoying model aviation.

Indian River Kontrol Society

Fact Sheet

What is the Indian River Kontrol Society? The Indian River Kontrol Society (IRKS) is an organization dedicated to the enjoyment, promotion, development, education and advancement of model aviation in the Brevard County area. The IRKS was chartered by the Academy of Model Aeronautics (AMA) on September 1, 1967 and was incorporated in July 1977. Serving the greater Melbourne/Palm Bay area, the IRKS has grown with the community from an informal 16 member group to an organization with nearly 300 members. Out of the 2166 chartered AMA clubs in the United States the IRKS ranks 5th in size and the 1st largest in Florida. In December 1993 we became a 'AMA Gold Leader Club' by demonstrating our leadership, organization and education to the people of Brevard County.

Many of our members, both past and present, are world renown as outstanding builders, flyers and designers of radio control model aircraft. While radio control model airplanes are the dominant activity within the club, many other facets of aero-modeling are pursued by the membership thus providing a variety of activity, enjoyment and education. With such a diverse interest base, the IRKS continues to host a variety of national, state and regional contests, thus bring in visitors and revenue to Brevard County. The most significant and prestigious has been the annual National Miniature Pylon Racing Association's Formula One National Championship in 1977 and 1993.

Where and When does the club fly? Our Club has 2 flying sites. The primary club flying site is a 700' grass runway located at the Brevard County 524 Landfill. The 524 field is located on the north side of SR524. Take I-95 to Exit 202. Go west 1.2 miles and turn Right on Adamson Road. Go 2.2 miles and turn Left into the Central Disposal Facility. Go 0.4 miles and turn left. Follow the road around to the south side (0.8 miles) and enter the field. GPS coordinates are N28d23m27s x W80d50m12s. (see attached map)

The 524 site is a control entry site and has no restrictions as to when you can fly. Activity at this site is almost continuous each weekend. Weekday flying is also enjoyed by the members during the summer's late daylight hours.

The club also maintains an asphalt runway at Valkaria Airport, which is used by more experienced pilots due to flight restrictions. Each member is provided the combination to the Valkaria field. Flight operations at Valkaria must cease at 5 PM.

Visitors, both flying and non-flying are always welcomed, we appreciate having guests. Both fields are always available for use except when a Club event is being held. Out of town flyers wishing to fly as a visitor must show a current AMA membership card and receive information as to our Club Safety Rules and methods of operation

Meeting Times and Place: 7:30 PM on the third Wednesday of each month at the Front Street Community Center in Melbourne (see attached map). The Executive Board meets on the first Wednesday of each month. If Club members wish to bring a topic before the Board they are invited to do so but please contact any Board member so you may be put on the agenda and tell you where the meeting will be held.

Membership: Membership in the Academy of Model Aeronautics is mandatory for all club members. AMA membership applications are available from the club or local hobby shops. A club membership application is attached at the end of this handout. An individual club member is any one person over the age of 18. A family club membership covers all family members and is good for all children until such time as they leave the family home or become 18 years old, whichever comes first. A junior club membership is anyone under the age of 18. If you have any questions or wish to join please call Steve Formanek at 253-0716 or catch him at Club meetings or events.

Dues: Annual dues for individual members is \$80 per year. Family memberships are available for \$110 per year and junior memberships, with a registered parent, are available for \$5 per year. Our active duty military members and Snowbirds pay a reduced rate of \$40 per year. If paying by check please make payable to "IRKS".

Activities: Due to the wide variety of interests within the organization, events ranging from the grace of glider contests, the thrills of radio controlled combat to the speed of pylon races are held every year. If competition is not your "Thing", picnics and low key fly-ins are regularly held by the club. The Indian River Kontrol Society also sponsors an annual model airplane display at the Melbourne Square Mall.

Club Benefits:

1. Each member receives a copy of the monthly Club newsletter the "Airscoop".
2. Each member receives a club membership directory which is updated throughout the year.
3. Your Club card entitles you to discounts at some Hobby shops in our area.
4. Unrestricted use of the club flying sites.

IRKS Executive Board

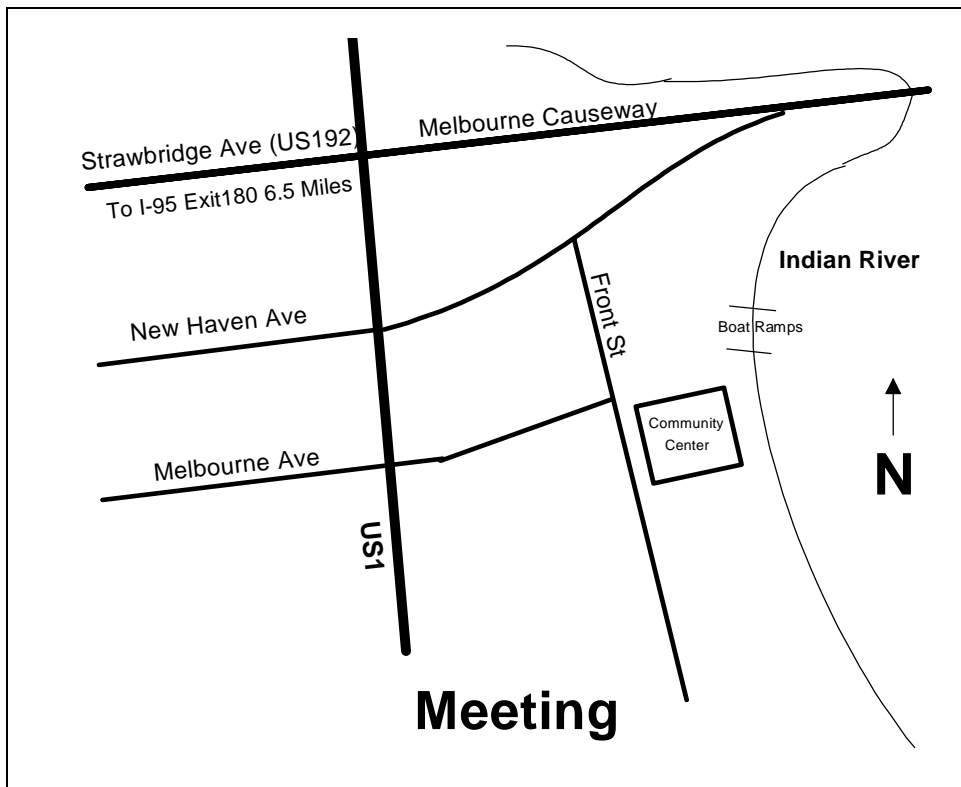
President	Gerry Armstrong	(321)727-8199	garm@castlegate.net
Vice President	Charlie Gray	(321)914-3471	cgray61@cfl.rr.com
Safety Officer	Ron Huhn	(321)723-7105	RMHuhn@cfl.rr.com
Secretary	Steve Formanek	(321)633-1071	trainstep@aol.com
Treasure	John Vennerholm	(321)254-3289	johnrv1@bellsouth.net
Contest Director	Don Fourson	(407)353-3941	combatgoblin2005@yahoo.com

If you have any questions about joining our Club please call any of the Executive Board members or better yet, come to one of our monthly club meetings. If you can't make the meeting, any one of the E-Board members will be glad to assist you.

Additional Info:

We also have a lot of useful info on our Home Page at www.irks.org.

IRKS Maps



IRKS Membership/Renewal Application

AMA Number: _____ Date: _____

Name: _____

Address: _____

City: _____ Zip Code: _____

Home Phone: _____

E-Mail Address: _____

Membership (Check One) Individual (\$80)* Family (\$110)* Junior (\$5)

Active Military (\$40)* Snowbird (\$40) (6 month min.)

- \$20 late fee after December 31st.
- Membership Fee is 50% after June 30th.

Fees Paid: Amount: _____ Cash Check **(Make checks payable to IRKS)**

Radio Channel Numbers Used:

Radio 1: _____ Radio 2: _____ Radio 3: _____

Radio 4: _____ Radio 5: _____ Radio 6: _____

Radio 7: _____ Radio 8: _____ Radio 9: _____

I have read and agree to follow the IRKS Rules/Safety Regulations (attached). I understand that violation of club safety rules can result in dismissal from the Indian River Kontrol Society and the use of club flying sites.

**Photocopy of AMA Card must
accompany this application**

(Signature)

**Applications and checks may be mailed to:
(Photocopy of AMA Card Required)**

**IRKS Membership
P.O. Box 61536
Palm Bay, Fl. 32906-1536**

Membership cards must either be picked up at a club meeting or other arrangement.

Indian River Kontrol Society

General/Safety Rules for 524 New Site Configuration

August 7, 2008

These Safety Rules apply to the County Road 524 Landfill Site configuration. The layout of the site is depicted in Figure 1, which identifies the Main Runway; Park Flyer and Helicopter; Sailplane; and Control Line flight areas. The 'No Fly Zone' areas are defined under General Rules, Number 4.

The club safety rules are intended to provide a safe unsupervised flying environment for the everyday use of the flying site.

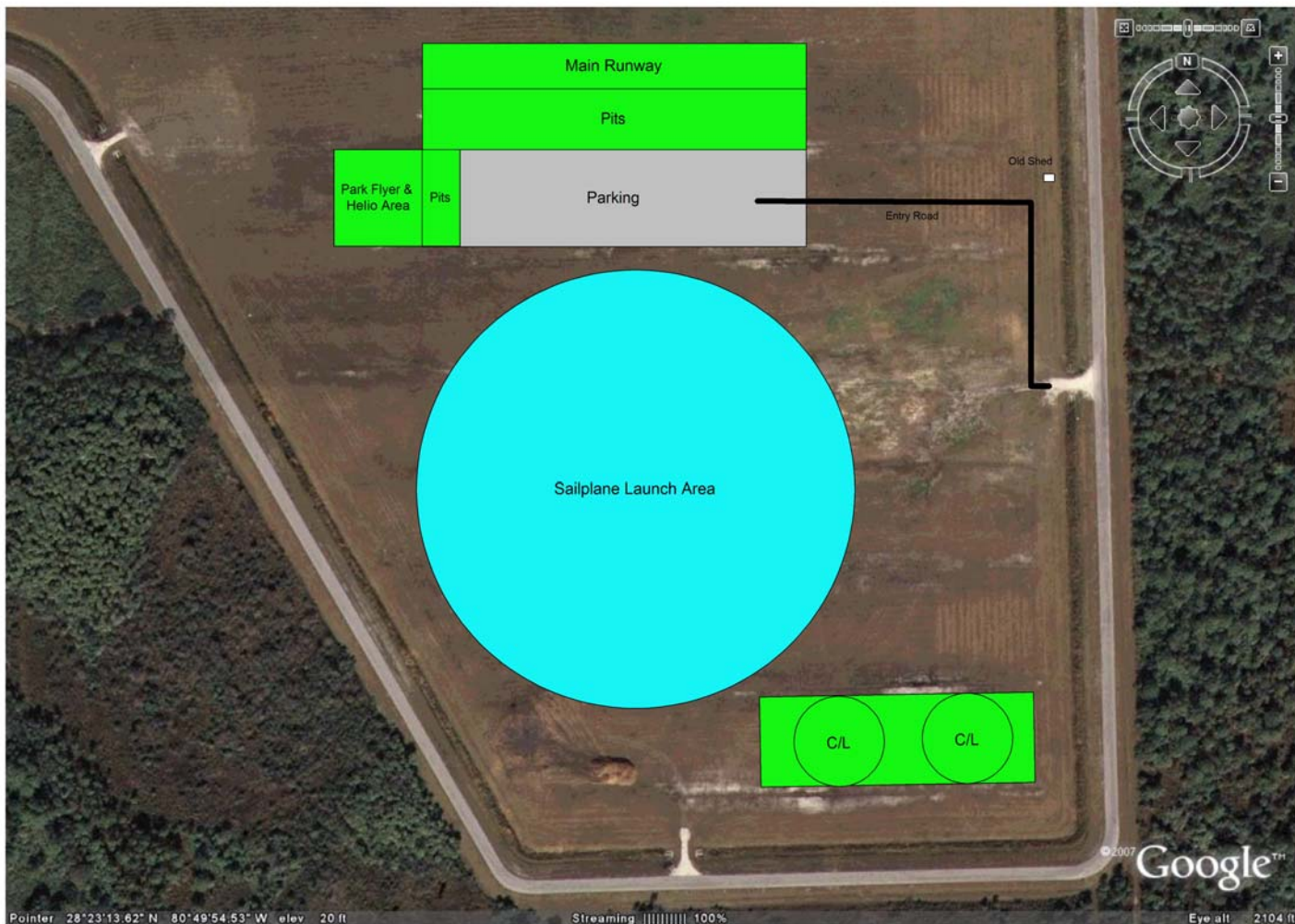


Figure 1. 524 Landfill Site Configuration.

General Rules

1. The AMA National Model Aircraft Safety Code and common courtesy will be observed.
2. Alcoholic beverages and other controlled substances are strictly prohibited on the premises.

3. All IRKS members are responsible for ensuring that club rules are enforced.
4. There will be no flying in the 'No Fly Zone' area with any type aircraft for any reason. The 'No Fly Zone' area encompasses all pilot stations, pit area, spectator area, parking lot, and the entry road as shown in Figure 1. It is also posted on top of the frequency control board. Violations of the 'No Fly Zone' may result in the suspension of the violating member's flying privileges for a minimum of one month. Repeated violations of club rules could result in expulsion, in accordance with our bylaws
5. All flight intentions shall be announced.
6. All flyers and guests are responsible for cleaning up their area and removing their trash from the site upon departure. This Includes debris in the event of a crash.
7. The use of mufflers is required on RC models except for vintage aircraft as per Vintage R/C Society rules. The use of mufflers, tongue mufflers acceptable, is recommended on C/L models except for engines manufactured without factory "silencers" and those exempt per AMA Rules; i.e., CL Combat, Racing and Speed. Note: The AMA requires that engine sound levels be limited to 98 db at 9 feet.
8. Children must be under adult supervision at all times while in the flying and pit areas and must not be left unattended.
9. All pets must be on a leash while at the field. You are responsible for picking up after your pets.

Flying Privileges

1. Use of the flying field is restricted to IRKS members, their guests, and participants registered in IRKS sponsored events. (By order of the County Commissioners)
2. Members with student cards must be accompanied by a member with a pilot card at all times while performing flight operations. Once a student passes the Solo Flight Test they will receive a pilot card, at which time they may fly by themselves.
3. Although use of a Buddy Box for flight instruction is recommended, the use of a Buddy Box is at the discretion of the instructor.
4. Participants registered in IRKS sponsored events must be AMA members (or equivalent) and may fly for the duration of the sponsored event.
5. In order to fly as a guest, the following shall be observed:
 - a. The guest must be an AMA member and be sponsored by a current IRKS member.
 - b. The sponsor must be present.
 - c. The guest must display his/her AMA card on the frequency tree along with the sponsors IRKS membership card.
 - d. Guest privileges are limited to a maximum of three visits per year, after which the guest may join the club. Guests cannot change sponsors to gain additional flight time.

Pit Rules

The Pit Areas for each flying area are shown in Figure 1. The following rules apply to the Main Runway area:

1. All aircraft with running engines shall be held or tethered except for hand-launched aircraft.
2. Aircraft with running engines or electric models with active flight batteries shall not be left unattended. This includes aircraft that are tethered. If you must leave the plane, kill the engine or unplug the flight battery for electric models.
3. Taxiing in the pit area is not permitted.
4. Aircraft start-up areas are located on the left and right side of the fenced pilot station area. Full power engine run-ups for the purpose of throttle adjustment and engine clearing are to be made only in this area. Taxiing out of the pits is permitted only from the aircraft start-up areas and directly to the runway.

Frequency Control Board

The frequency tree must be used by all pilots to identify current club membership and which frequencies are in use. Post your current IRKS membership card on the frequency tree according to the guidelines below:

1. Members using discrete frequency radios
 - a. Post your IRKS membership card on the frequency pin corresponding to the frequency you intend to use. Sailplane pilots must attach a clothes pin to their membership card to identify that they are flying in the sailplane area.
 - b. In the case of multiple pilots using the same frequency, only one pilot may place his/her IRKS membership card on the frequency pin at a time. When a pilot is finished with his/her flight, he/she will surrender the frequency pin to the next waiting pilot.
2. Members using 2.4 GHz radios - Post your IRKS membership card in the designated area of the frequency tree.
3. Members flying control line – Post your IRKS membership card in the designated area of the frequency tree or on a frequency pin if you are using radio control with your control line equipment.

Club Contests and Special Events

The Contest/Event Director (CD) shall be ultimately responsible for conducting all contests and special events in a safe manner. The CD has the authority to supersede these rules during a contest or other event. The CD may use a different frequency control system, not use the pilot stations, close our main field and parking lot and use them as a fly zone, etc. in order to conduct the contest/event.

When the field is closed for a contest or event, ONLY the CD can reopen the field for normal flying.

Flight Operations for Powered Aircraft

The Powered Aircraft Operations Area is the Main Runway area as shown in Figure 1. This area may be used by all aircraft. Park Flyers and helicopters are encouraged to use the park flyer and helicopter flight operations area that is provided on the west end of the field. Pilots should consider time sharing the use of the runway to accommodate diverse aircraft that could potentially interfere with each other.

1. The number of aircraft in the air at one time shall be limited to the number of pilot stations adjacent to the Main Runway
2. Pilots must stand in the designated pilot station areas adjacent to the runway for all flight operations.
3. Flying over the runway is permitted only for the purpose of takeoffs, touch and go practice, and landings. All other flying shall be conducted north of the main runway.
4. You must announce your intentions on runway use – takeoffs, landings, aircraft hand launches, temporarily occupying the runway, etc.

Flight Operations for Sailplane Launch Area

The sailplane launch area is an 800-foot circle south of the main parking area as shown in Figure 1.

Launches are permitted in any direction as long as there is adequate room to turn the aircraft after launch to prevent flying over the No Fly Zones at low altitudes. Although sailplanes will typically be flown over the entire site at high altitudes, they shall not be flown over the No Fly Zones at low altitudes.

Flight Operations for Park Flyers and Helicopters

The park flyer and helicopter flight operations area is west of the No Fly Zone area (Parking Lot) and south of a west extension of the Main Runway as shown in Figure 1. 3D flying is allowed in this area. No flights may encroach into the Main Runway landing approach area.

This area is time shared between park flyers and helicopters; i.e., either park flyers or helicopters will fly at any given time.

Park Flyer Flight Operations

1. A 'park flyer' is defined by the AMA as an electric airplane that weighs less than 2 pounds and flies less than 60 miles per hour.
2. Two park flyers may fly at the same time.

Helicopter Flight Operations

1. For safety reasons, only one helicopter will fly at any given time.
2. Those pilots in helicopter training must use this area.

Flight Operations for Control Line Aircraft

The control line area is in the southeast corner of the field as shown in Figure 1.

1. The pit crew shall leave the circle area/flight path after launch of the aircraft.
2. Do not enter a circle or the Safety Zone between the circles while an aircraft is flying unless requested to do so by the pilot or his pit crew.

Flight Operations for Pylon Racing

Pylon racing practice will be held with the three pylons located north of the Main Runway such that the Main Runway can be used for takeoffs and landings of the aircraft participating in the practice.

1. Pylon racing practice will be scheduled in advance and the day, time, and expected duration of the practice will be announced to the club members.
2. The park flyer/helicopter area and the Main Runway area will be closed during pylon racing practice.
3. The parking area may not be used during these practice sessions.
4. Spectators are invited to watch these practice sessions but they must remain at least 300 feet from the nearest pylon.

Indian River Kontrol Society

General/Safety Rules for Valkaria Airport

October 22, 2003

General Rules

1. AMA National Model Aircraft Safety Code and common courtesy will be observed.
2. Alcoholic beverages and other controlled substances are strictly prohibited on the premises.
3. All IRKS members are responsible for ensuring that the club rules are enforced.
4. Repeated violations of the club rules will be discussed at the monthly IRKS Executive Board meeting. Violators are encouraged to attend the meeting and plead their case. The board reserves the right to take disciplinary action against any violators including revocation of club membership and privileges.
5. By order of the Airport Manager, no full size ultralite / parasol type aircraft are permitted to fly off the club runway.
6. The gate to the club area must be closed at all times. The last person to leave is responsible for closing and locking the gate.
7. Driving across the active runway or around it is strictly prohibited.
8. Flight instruction may only be given by IRKS designated Valkaria qualified flight instructors.

Flying Privileges

1. By order of the Brevard County Commissioners only IRKS members and their guests may fly at the airport.
2. In order to fly as a guest, the following shall be observed:
 - A. The guests must be sponsored by a current IRKS member.
 - B. The sponsor must be present.
 - C. The guest must be an AMA member.
 - D. The guest must display their AMA card, along with the membership card of the IRKS sponsor, on the frequency pin they are using on the frequency tree.
 - E. Guest privileges will be limited to a maximum of three visits, after which the guest may join the club.
 - F. Guests cannot change sponsors to gain additional flight time.
3. All pilots must have an orientation briefing prior to flying at Valkaria Airport for the first time and receiving the lock combination for the gate
4. Airport hours are from 8 A.M. until 5 P.M. No flying of RC aircraft is allowed before 8 A.M. Flying is permitted after 5 P.M.

Pit Rules

1. Children in the pit area must be under adult supervision at all times.
2. Full power engine run ups for the purpose of throttle adjustments and engine clearing are to be made with the aircraft pointed away from the pit area, other aircraft, and any field support equipment.
3. While the engine is running, aircraft must be secured and not left unattended.

Frequency Control

1. The frequency tree must be used by all pilots to identify what frequencies are in use.
2. Members must post their IRKS membership card on the frequency pin corresponding to the frequency they intend to use.
3. In the case of multiple pilots using the same frequency, only one pilot may place their IRKS membership card on the frequency pin at a time. At no time are multiple IRKS membership cards permitted on the same frequency pin.
4. When a pilot is finished with their flight, they will surrender the frequency pin to the next awaiting pilot.

No Fly Zone

1. The 'No Fly Zone' area encompasses all pilot stations, the 600' separation marker, just north of the active runway and the pit/parking area.
2. There will be no flying in the 'No Fly Zone' area for any reason.
3. Violations of the 'No Fly Zone' will result in the suspension of the violating member's flying privileges per the club bylaws.

Flight Operations

1. All flight operations must be conducted on the north side of the white line, which identifies the 600' separation between our runway and the active runway.
2. Only two aircraft, preferably one, will be allowed in the air at any time.
3. Any club member wishing to fly the pylon course must contact Tom Bogut for a pylon orientation briefing.
4. Members with student cards must be accompanied by a member with a pilot card at all times while performing flight operations. Once a student passes the Solo Flight Test they will receive a pilot card, at which time they may fly by themselves.
5. All engines larger than .099 cubic inches shall use a muffler.
6. Spotters are strongly recommended.
7. All intentions should be announced.
8. All flight instruction shall be given using a Buddy Box, except when the primary radio is not capable of using a Buddy Box connection. In the case of no Buddy Box capability, only an IRKS instructor shall do the flight instruction.

Helicopter Flight Operations

1. Normal helicopter flight will be conducted from the same designated active runway as fixed wing aircraft and follow the same procedures as appropriate.