STUDENT LOG BOOK

Student Name_____

AMA No. _____

The information in this booklet is intended as a guide for the progression of a newcomer to RADIO CONTROL FLYING. This booklet should be retained by the STUDENT PILOT and be kept current as he/she progresses toward becoming a qualified pilot of the ONONDAGA MODEL AIRPLANE CLUB. The Instructor will use this book as a guide during flight training sessions with the Student Pilot. This guide is by no means an ironclad directory for learning to fly, but it should be used to assist Instructors and students in determining the state of proficiency that has been achieved, and what instruction needs to be completed prior to the QUALIFICATION FLIGHT.
GROUND SCHOOL ATTENDANCE is MANDATORYprior to the initiation of any flight trainingor QUALIFICATION FLIGHT.

If at any time during flight training, the Student Pilot desires to perform the qualification flight without further training, he/she may do so, but if the qualification flight is unsatisfactory, the student MUST go back to the point in the book where he/she left off and complete every requirement before being allowed to again perform the qualification flight.

1. PLANE AND EQUIPMENT:

The instructor should inspect the entire plane for construction integrity, warps, alignment, and CG balance. He should also check the radio equipment installation, pushrods, fuel tank, engine and engine mount, in accordance with the Maiden Flight preflight check list on page 7. Also, range check the radio and all controls with the engine running.

Checked by: _____

Date: _____

2. TEST FLIGHT AND TRIM (primarily for the instructor):

Range check the radio. The instructor shall takeoff, establish level flight, and, if possible, trim the plane for hands off flight. Check for any unusual flight characteristics. Land and correct all linkages and/or pushrods for center trim. Remove wing and re-inspect airplane after its maiden flight.

Checked by: _____

Date: _____

3. FAMILIARIZE STUDENT WITH EQUIPMENT:

Instruct the student on the proper use of the equipment. Demonstrate control stick use on the ground. The student should handle the equipment enough to be reasonably familiar with the aircraft flight control responses to control stick actions.

Checked by: _____

Date: _____

Note: If possible, a Buddy Box should be used for all flight training. If it is not used, have a clear understanding with the student pilot PRIOR TO FLIGHT TRAINING concerning how you want to handle the transfer of the transmitter in the event of trouble.

4. STRAIGHT FLIGHT OVER THE FIELD AT ALTITUDE:

The instructor will take off, establish level flight, and perform the maneuver while explaining his actions. Allow the student to assume control from the Buddy Box while the instructor stands by on the master transmitter. Talk the student through the maneuver. Any time a dangerous flight attitude is encountered, the instructor will take control of the aircraft, establish level flight, and start again with the student. Do not advance until the student has demonstrated his/her ability to control the plane, coming and going, in straight flight with no altitude loss or gain.Do not advance to the next maneuver until this can be done proficiently.

Checked by: _____

Date: _____

5. PERFORM CIRCLES WITH NO ALTITUDE GAIN OR LOSS:

The instructor will take off, establish level flight, and perform the maneuver while explaining his actions. Allow the student to assume control from the Buddy Box while the instructor stands by on the master transmitter. Talk the student through the maneuver. The student should be able to perform right and left hand circles with no loss or gain in altitude. Do not advance to the next maneuver until this can be done proficiently.

Checked by: _____

Date: _____

6. PERFORM FIGURE EIGHTS WITH NO ALTITUDE GAIN OR LOSS:

The instructor will take off, establish level flight, and perform the maneuver while explaining his actions. Allow the student to assume control from the Buddy Box while the instructor stands by on the master transmitter. Talk the student through the maneuver. Before progressing to the next step, the student should be able to perform figure eights to the right and left with no loss or gain in altitude. Do not advance to the next maneuver until this can be done proficiently.

Checked by: _____

Date: _____

7. SQUARE PATTERN FLIGHT - RIGHT AND LEFT HAND PATTERNS:

The instructor will take off, establish level flight, and perform the maneuver while explaining his actions. Allow the student to assume control from the Buddy Box while the instructor stands by on the master transmitter. Talk the student through the maneuver. Before progressing to the next step, the student should be able to perform square patterns with no loss or gain in altitude. Do not advance to the next maneuver until this can be done proficiently.

Checked by: _____

Date: _____

8. MAKE LANDING:

The instructor will make a landing while explaining his actions. During this phase, the instructor should perform all of the takeoffs. Allow the student to assume control from the Buddy Box while the instructor stands by on the master transmitter. Have the student fly square patterns as performed in step 7. On the crosswind and final, talk the student through altitude loss, power application, and go-around criteria. When the student has shown the ability to properly control the aircraft, talk the student through the landing. Repeat as necessary until proficiency is evident.

Checked by: _____

Date: _____

9. MAKE TAKEOFF:

The instructor will take off while explaining his actions. The student should practice taxiing for a period of time to become familiar with control actions. The student should execute several medium speed taxi runs and aborts before a takeoff is attempted. When the student has shown the ability to control the plane during the ground roll phase of the takeoff, allow the student to takeoff while talking the student through the required control inputs. Do not advance to the next step until the student has demonstrated an ability to perform a well-controlled takeoff.

Checked by: _____

Date: _____

10. MAKE SIMULATED DEAD-STICK LANDING:

The instructor will demonstrate a simulated dead-stick landing by flying to a safe altitude, retarding the throttle to idle, and then proceeding to make a safe idle-power landing. During this phase, procedures of step 8 will be followed, and several power-on landings will be made before the student attempts a dead-stick landing. This will be repeated until the student demonstrates the ability to position the aircraft for final approach, to maintain speed during the descent (without stalling), and to land within the field boundaries without power.

Checked by: _____

Date: _____

1. OBSERVE SOLO FLIGHTS:

The instructor shall stand by while the student makes a MINIMUM of 10 solo flights before attempting the QUALIFICATION FLIGHT.

Flight #	Date	Observed By
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

12. QUALIFICATION FLIGHT:

The qualification flight should take place with a examiner as an observer and should demonstrate the student's ability to fly alone and safely. The following is the maneuver list that must be satisfied by the student in order to qualify as a solo pilot.

A. An airplane check for safety.
B. Start engine and taxi to downwind end of runway.
C. Take off and turn away from the pit area / flight line.
D. Demonstration of both right and left hand flight patterns around the field.
E. Approach and landing.

Checked by: _____

Date: _____

NOTE TO FLIGHT INSTRUCTORS

Be sure that you do initial training at sufficient altitude so that you can retrieve the transmitter and recover the plane without damage (use a buddy box whenever possible). The only maneuvers that require minimum altitude are takeoff and landing, so there should be no reason for crashes prior to these steps. At the time of landing and takeoff, the student should have already demonstrated flight competency, thereby reducing crash possibility. All flying will be done in accordance with the CLUB FIELD RULES.

NOTE TO STUDENT

Keep this booklet with you, so that any instructor available may assist youwhen you are at the field. Do not be afraid to approach any of the instructors at any time. They have volunteered to assist you, but you must speak up. REMEMBER that you are not allowed to fly unassisted until you have qualified. This is for your safety and the safety of everybody present at the field. You may crash during the training, but you should not let this discourage you. The best flyers also crash, as you will see while observing activities at the field.

PRACTICE - PRACTICE - PRACTICE - PRACTICE - PRACTICE - PRACTICE

MAIDEN FLIGHT - PREFLIGHT INSPECTION

INTERNAL (remove wing if attached)

1. Check all servo mounts, servos, and servo arms secure. 2. Check all push rods secure. 3. Check receiver and battery are padded and secure. 4. Check for loose items and wires that could foul servo or pushrod movement.

WING

1. Check for breaks, warps, etc. 2. Insure that center section is adequately reinforced. 3. Check aileron pushrods, linkage, and clevises (if equipped) prior to securing wing to aircraft. 4. Brief new pilots on the adequacy of rubber bands (if equipped). 5. After wing is in place, check for proper incidence and alignments as best you can.

ENGINE AREA:

1. Fire wall area is fuel proofed. 2. Check engine mount, engine, muffler and prop nut/spinner are securely mounted. 3. Check prop for nicks, cracks, etc. and brief new pilots on the importance of this check. 4. Check nose wheel steering mechanism (if equipped). 5. Check cowl secure (if equipped).
6. Check engine for obvious thrust misalignment.

TAIL SECTION:

1. Check vertical fin, rudder, and rudder clevis are secure. 2. Check tail wheel (if equipped). 3. Check horizontal stabilizer, elevator, and elevator clevis are secure.

BALANCE:

1. Balance aircraft with fuel tank empty. 2. Show new pilots proper balance point and balance technique. 3. Explain the danger of a tail-heavy aircraft.
4. Tail-heavy situations should be corrected prior to flight.

RANGE CHECK - STARTING ENGINE:

1.Ensure student AMA card is placed in proper freq. slot on Freq. Board. 2. Insure that radio batteries have been adequately charged. 3. Check that flight controls and engine control move in the proper direction. 4. Check transmitter for correct rates. 5. Check flight control surfaces to be in proper trim. 6. Fuel aircraft, start engine, and make adjustments to obtain proper engine idle. Make sure that the engine can be shut off by lowering the trim control on the transmitter or transmitter throttle cut switch (explain how/why to new pilots). 7. Range check aircraft with engine running (explain why to new pilots).NOTE: If everything checks out properly, the aircraft should be ready for flight.

ROUTINE PREFLIGHT INSPECTION

INTERNAL (before attaching wing):

1. Check all servo mounts, servos, and servo arms secure. 2. Check all push rods secure. 3. Check receiver and battery are padded and secure. 4. Check for loose items and wires that could foul servo or pushrod movement. 5. Check for fuel leaks.

WING(s):

1. Check for breaks, warps, and cracks, etc. 2. Check aileron pushrods, linkage, and clevises (if equipped) prior to securing wing to aircraft.

ENGINE AREA:

1. Check engine mount, engine, muffler, and prop nut/spinner are securely mounted. 2. Check prop for nicks, cracks, etc. and brief new pilots on the importance of this check. 3. Check nose wheel steering mechanism (if equipped). 4. Check cowl secure (if equipped).

TAIL SECTION:

1. Check vertical fin, rudder, and rudder clevis are secure. 2. Check tail wheel (if equipped). 3. Check horizontal stabilizer, elevator, and elevator clevis are secure.

RANGE CHECK and CONTROL CHECK:

1. Ensure AMA card is placed in proper freq. slot on Freq. Board and perform range check. 2. Check that flight controls move in the proper direction.
3. Check transmitter for correct rates. 4. Check flight control surfaces to be in proper trim.

O.M.A.C. Ground School

Part 1

If You're New to R/C Flying

The following section is mainly designed for those who are totally new to the hobby; nevertheless, even experienced full-scale pilots must make a transition into R/C flying, as there are some fairly significant differences between model and full-scale aircraft (mostly with regard to the mental difficulty of controlling the aircraft "remotely").

Which model should I get? There are benefits to getting an ARF (Almost Ready to Fly) or RTF (Ready to Fly) as opposed to kits. Generally speaking, by the time you buy a kit, the hardware, and the covering, you have spent as much as the ARF or RTF would cost. Plus it will take you considerably longer to put the kit together then it will to assemble an ARF... and a RTF is ready in minutes! It takes a good deal of patience, the right tools, and a bit of careful expertise to build a kit "straight and true" so that the plane flies properly. If you would really rather fly the plane than build it, an ARF or RTF is the way to go. An ARF is a good introduction to building since most of the carpentry and covering has been done for you. An ARF will require you to mount the engine, servos, electronic wiring, battery, switches, pushrods and control horns, fuel tank and tubing, landing gear, attach the tail surfaces, and hinge the control surfaces (ailerons, elevator, and rudder). It is a good deal of work, but far less than a kit.

What about getting equipment for the plane? **I**f you are just starting out; don't load up your Visa/MasterCard with all kinds of "fancy" equipment, flight boxes, etc. Get just the bare minimum that you need to start and fly the plane, get some fuel, and get to the field. After you've worked with an instructor, met some fellow pilots, read some of the magazines, and thought it over, then you can decide what equipment you want. There is a lot to choose from, and there will be used equipment available through the club or swap meets. All too often, new hobbyists overspend, don't learn as quickly as they had hoped, and get discouraged. This is especially true if they tear up their first airplane. Keep your investment small until you gain some momentum. Take it easy as you fly and don't take too many chances. Be patient and read RC model aircraft magazines. Do as much research as you can on how to fly models, and how to build and maintain them. You may want to fly more than build, but remember that a poorly configured plane won't fly very well, or very long!

What is the fastest way to learn? It would be in your best interest to purchase a computer simulation of RC model aircraft flight. A full-scale aircraft flight simulator is not nearly as helpful as an RC flight simulator. With an RC simulator, your view of the plane is from the ground, as if you were standing in the field next to the runway. Also, the plane in an RC simulator is small and light, moves much faster relative to your location, and will have the proper aerodynamic behaviors based on the physics of the RC model; scale weight, lift, power, and drag, making the model much faster and more erratic than a full scale aircraft because of its smaller size relative to the same air. Plus, the controller that comes with an RC simulator works exactly like a real RC transmitter... so you can get used to the controls. An RC simulator will help you learn faster, enjoy flying more, be able to "fly" at home anytime (rain or shine... day or night!), and MOST IMPORTANTLY, it will save you thousands of dollars on your way to becoming an expert in 1/4 the time. Every time you crash a plane on the simulator, don't forget to say to yourself "Three hundred dollars" or even "Five hundred dollars" as you press the "Reset" button and take off again.

What if I'm more knowledgeable about flying than other 'beginners'? Unless you've absolutely conquered the sky with an RC plane, don't be so sure of yourself. Some of the best pilots are extremely cautious about RC flying... even with years of experience. Don't be too quick to buy that "flashy" or "custom" plane. Be willing to start with an “easy” plane. Chances are you may be buying a second plane within a few months, or even days... when your trainer plane loses the battle with gravity!! Take your time. You'll need to be able to maintain positive control of your aircraft in a variety of wind, light, and weather conditions, and around other RC traffic. You should learn all the types of possible flight maneuvers, including some aerobatic maneuvers, until you have no doubt about your ability to safely recover the proper flight attitude, to avoid obstacles, and to insure that you would not inadvertently jeopardize any person or property with your aircraft. Soon enough, you will be surprised to find that you are ready to advance to a higher performance aircraft. Get several hours of flight time (50-75 flights) after you've soloed, and you'll be confident about making the transition to a better plane.

O.M.A.C. Ground School

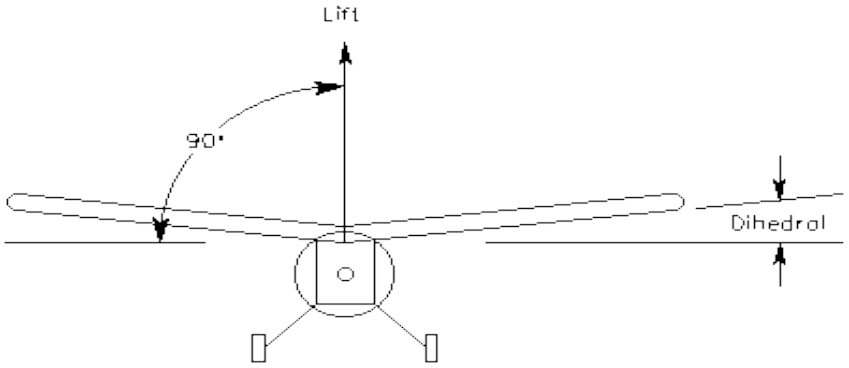
Part 2

Aerodynamics Glossary

A general understanding of basic aerodynamics will help to understand why an aircraft does what it does. Our objective here is to provide you with the concept of aerodynamics, not the technicalities. For those who wish to go into aerodynamics in greater depth, student or private pilot flight manuals are a good place to start.

Note: Referring to aircraft as to right or left is, as a pilot would view it from the cockpit.

Wings:
There are three basic wing profiles.
Flat Bottom:
Creates the most lift and is the most stable. Most trainers are flat bottom.
Semi-Symmetrical:
Still stable, yet allows more maneuverability and extends aerobatic capability. Great for "second" planes.
Fully Symmetrical:
Least stable and most aerobatic. For more experienced flyers only. There are three basic wing locations.
High-Wing, Mid-Wing, Low-Wing:
Stability diminishes as the wing is placed lower on the fuselage; the high wing being the most stable. Here too, most trainers are high wing. A fully symmetrical, mid-wing with no dihedral is the most aerobatic.
Dihedral:
Dihedral is the upward angle in the wing when looking at it from front or rear. The more dihedral, the more stable and self-recovering. The straighter the wing, the more aerobatic, but less stable. A low-wing aircraft requires more dihedral to be as stable as a high-wing, all other factors being equal.



Washout:
Washout is a twisting of the wing when viewed from the wing tip. The trailing edge is higher at the wing tip than at the fuselage. This increases stability and self-recovery. It allows the outer wing area to still "fly" (maintain control) even if the inner wing area is in a stall condition. Refer to "stalls" later. Wash-in is reverse, and has no practical application.

Ailerons:
Ailerons control the bank of the aircraft, which turns the aircraft. The up aileron decreases "lift", while the down aileron creates more "lift", thereby banking the aircraft. The aircraft always banks or turns toward the up aileron. Refer to "lift" later.

Vertical Stabilizer:
The stationary part of the rudder assembly.

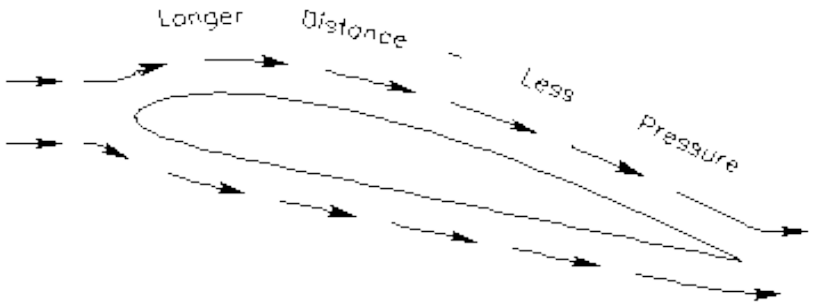
Rudder:
The movable control surface of the assembly. Its primary function is to coordinate the bank and turn; however, in the case of model aircraft with a dihedral wing, it can be used to steer or turn the aircraft.

Horizontal Stabilizer:
The stationary part of the elevator assembly.

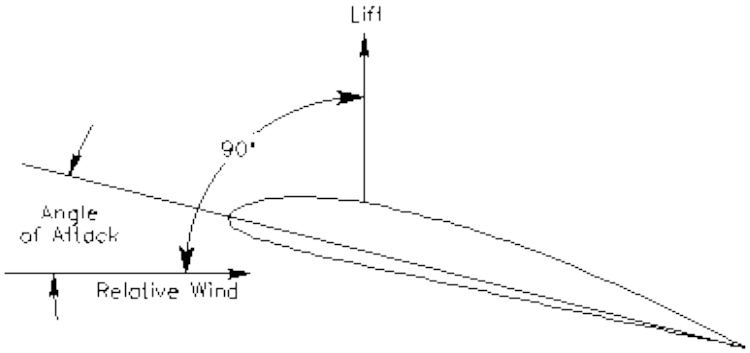
Elevator:
The movable control surface of the assembly. Its primary function is to control the angle (nose up, etc.) of the aircraft; however, in the case of model aircraft, it is basically used to control altitude. Technically, power controls altitude and elevator controls angle, which in turn controls airspeed. Refer to more advanced flight manuals.

Flaps:
Flaps create more "lift". There are several basic types of flaps, none of which are used on trainer planes. Refer to more technical manuals.

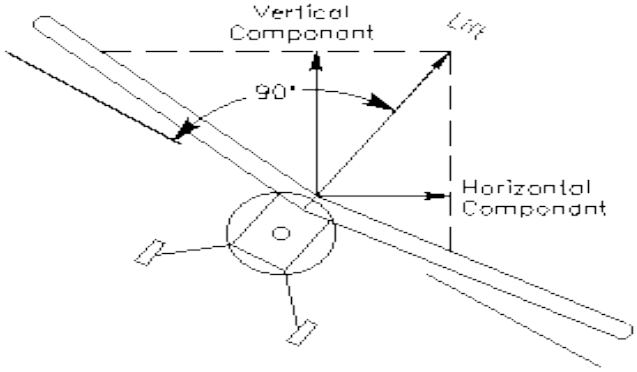
Lift:
Lift is created when the air moving over the top of the wing moves faster that the air underneath. Air over the top must travel a greater distance; therefore, it must move faster to get to the rear at the same time. The faster the air moves past a surface, the less pressure it exerts on that surface. The pressure underneath is greater, pushing the wing up. This is Lift. Lift is always 90 degrees to the relative wind. The resultant force of Lift and Induced Drag of the wing is always 90 degrees to the span of the wing.



Relative Wind:
RW is the air coming at the aircraft; it is always exactly opposite the direction of travel. Do not confuse this with the wind conditions you are flying in. The angle of the wing as it hits the RW is called the angle of attack. Too high of an angle of attack, without enough airspeed, will cause the wing to stall. Refer to "stalls "later.



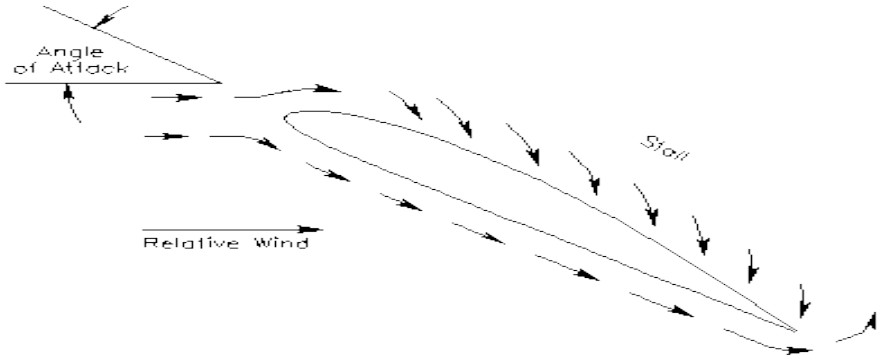
Components of lift:
When the aircraft is banked, the "lift" is banked too. The "vertical component of lift" is no longer as great. This is why you have to add up elevator to maintain altitude. The "horizontal component of lift' causes the aircraft to turn. If you bank too steep, the "vertical component" will lessen even more and the wing will stall and fall. Refer to "stalls" later.



Propellers:
A propeller is nothing more than a rotating airfoil in the horizontal direction. Applying more power creates more horizontal lift (better known as thrust), which pulls the aircraft through the air. Do not think of a propeller as blowing air rearward.

P-Factor:
For simplicity, P-factor is the unequal thrust or torque of the propeller. During power on, or climbing conditions, the right side of the propeller produces more thrust. This causes the aircraft to drift left. This is why an aircraft that rolls straight will run off to the left of the runway on takeoff. Correct with a slight right rudder.

Stalls:
A stall is the loss of "lift". This condition occurs when the angle of attack becomes too great for the air to flow smoothly over the top surface. The air then becomes turbulent (much like the spoiler on a race car) and no longer produces lift. When this happens, the nose of the aircraft will drop abruptly resulting in a loss of altitude. Stalls can occur with power on or power off, at low speed or high speed, depending on various other conditions. The most common stalls are while climbing too steeply, turning hard after takeoff, or when banking too steeply while turning final to land. All stalls have one thing in common. They all require lowering the nose to recover. Point of interest: A spin is nothing more than a sustained stall with rotation.



O.M.A.C. Ground School

Part 3

Turning, Taxiing, Taking Off, Flight Pattern

There are those who believe that flying a model aircraft is more difficult than a full-scale aircraft. Visualizing aircraft control from the ground takes some practice. It's like an out of cockpit experience. Everything is fine so long as the aircraft is flying away from you. Flying it towards you is a whole different story. Think of it as sitting backwards on the dashboard of your car, steering wheel between your legs, and driving down the road. Here's a reference list to help you along.

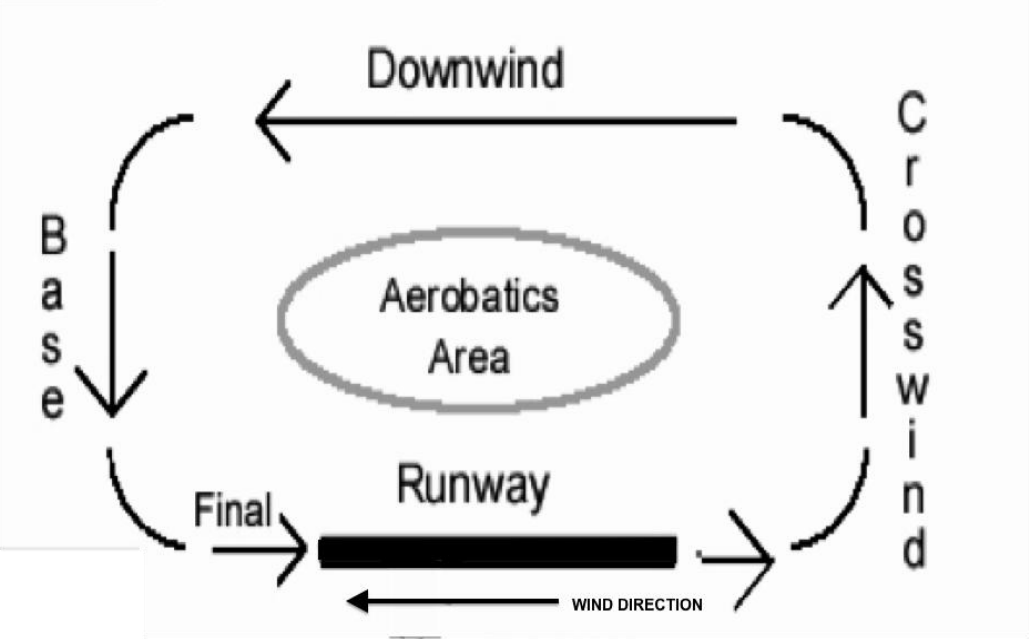
aft Direction

Control Movement	Aircraft Reaction
Aircraft Going Away	
Aileron	Same
Elevator	Same
Rudder	Same
Coming Towards You	
Aileron	Reversed
Elevator	Same
Rudder	Reversed
Inverted Going Away	
Aileron	Same
Elevator	Reversed
Rudder	Reversed
Inverted Coming Towards You	
Aileron	Reversed
Elevator	Reversed
Rudder	Same

Basically, aileron control is intuitive when the aircraft is going away from you; move the stick left = left turn, move the stick right = right turn; however, when the aircraft is coming towards you, to return to wings level, just move the stick in the direction of the down wing.

You will soon find that after a little practice, you don't think much about which control does what, or even which direction to turn. Like riding a bicycle, it all becomes "second nature", and you'll do it without thinking about it. But you'll need to practice, practice, and practice.

Flight Pattern:
The FP, or traffic pattern, is made up of four legs. Starting at the runway, the aircraft takes off as directly into the wind as possible. If the wind direction is described as "East" or "Easterly", that means it is coming from the East and blowing toward the West. If the wind is from the East, you take off and land, if possible, with the aircraft pointing toward the East.



The part of the flight pattern off the departure end of the runway is called the "upwind leg". The first 90-degree turn is the "crosswind leg". The second 90-degree turn results in the aircraft flying away from the wind direction, and so it is called the "downwind leg". The third turn is the "base leg". It is this leg where the aircraft sets up for entering the "final approach". Usually the word "leg" is dropped, and each part of the pattern is called simply by its one-word name, i.e., "upwind", "crosswind", "downwind", "base" and "final".

Shout A Warning:
Always announce your intentions when it involves use of the runway such as "Taxiing on the Runway!", "Taking Off!", "Touch and Go!", "Landing!", and "Dead Stick!". Be sure to listen for other pilots doing the same. Also, announce each time you venture onto the runway by saying "Man On the Runway!" or simply "On the Runway!", and make sure it is safe before you step onto it. Because pilots cannot watch you, be sure to announce, "Clear of the Runway" or simply "Clear!" when you are no longer on it. Remember, a pilot may need the runway quickly if a plane loses engine power (called a "dead stick").

Takeoff:
Before takeoff, don't spend a lot of time taxiing around on the runway. **You should not taxi or takeoff if you do not have complete confidence in your ability to control your aircraft.** An aircraft that is out-of-control is a serious hazard to life and health. **If you have any doubt about any aspect of your aircraft or flying,ask for help!** If you are having problems with your aircraft, and takeoff is doubtful, taxi into the grass just outside the edge of the runway, preferably a safe distance away from any persons. Remember, the runway must be shared and may be needed in a flight emergency. After takeoff, as you climb into the upwind, make sure you have gained enough altitude quickly enough to clear any obstacles such as trees, or turn away from them. Turn downwind when you are at an appropriate distance. Remember, you must turn toward the North after takeoff. **Never fly your aircraft over the flight line.**

Air Traffic:
The pattern depicted is only a "recommended" practice, and is the "default" pattern (the diagram shows wind from the East... the direction of flight would be reversed for a West wind). This flight pattern is not an "enforceable" procedure, and some aircraft may be flying opposite to the pattern, or not following any type of pattern. Luckily, the sky is an extremely big space, and although it does occur sometimes, mid-air collisions are fairly rare. First and foremost, you must concentrate and have a continuous awareness of your plane's location in the sky, and the "orientation" of the plane (that is, which way it is pointed, and whether it is right-side-up or upside-down). If you feel you need to take an evasive measure, and you can do so safely, then you are certainly free to do so. But it would be best not to allow yourself to be so fearful that you cannot maintain your composure. **Panic is your enemy,** and makes it much more likely that you will make a mistake, or be unable to recover from an unexpected event.

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. (AMADocument520-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 that 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) Theaircraft,controlsystemandpilotskillshavesuccessfullydemonstratedallmaneuversintendedoranticipatedpriortothespecificevent.

(b) Aninexperiencedpilotisassistedbyanexperiencedpilot.

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 controlduringtheentire flight maintainingvisualcontactwithoutenhancementotherthanbycorrectivelensesprescribedforthepilot.

(b) FlyusingtheassistanceofacameraorFirst-PersonView(FPV)onlyinaccordancewiththeproceduresoutlinedinAMADocument#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.

O.M.A.C. Club Field Rules

1. Each member is responsible for assuring that he/she complies with all field rules and acts in a manner that encourages and reminds all other flyers and visitors to comply. Common sense should always be used when operating model aircraft.

2. Operations and activities at the field will be conducted in accordance with the official AMA Safety Code and the O.M.A.C. Field Rules. Failure to do so may result in loss of flying privileges.

3. An AMA membership card, or satisfactory evidence of membership, is required for all members and AMA guests who pilot model aircraft at the field. The only exception is a visitor being introduced to R/Cwho, under direct supervision of a qualified flyer, Club and AMA member, operates a Club member's aircraft that meets the AMA requirements (See AMA guidelines).

4. Frequency control for all radios other than 2.4 Ghz will be in effect at all times. No frequency control is needed for 2.4 Ghz radio operation. Frequency control procedure is as follows:

a. The AMA membership card (See #3) will be used as the control device.

b. Transmitters should be turned off and checked to make sure they are off after each flight.

c. Before turning on a transmitter, check the frequency control board. If there is an AMA membership card in the slot for the desired frequency, do not turn on the transmitter until the frequency is available. If the frequency is not in use, place your AMA membership card in the appropriate frequency slot, place the pin on your transmitter, and proceed to use your transmitter.

d. After your flight or activity has terminated, turn off your transmitter, remove your AMA card from the frequency control slot and return the pin.

e. At no time will there be more than one card in a given frequency slot.

5. The READY area is the area from the work tables to the pilot positions. Aircraft are to be moved to the READY area in preparation for flying and/or engine adjustment. No engines should be started behind the READY area.When starting engines, point the aircraft towards the runway and avoid pointing the exhaust towards airplanes and people.Taxiing will be confined to moving from the READY area to the RUNWAY. No taxiing of return aircraft will be permitted past the pilot stations into the ready area. All engines and motors must be shut down before passing the pilot stations into the ready area.

6. Aircraft flights:

a. No operation of combustion engines before 9A.M. Monday-Saturday or 12:00 noon on Sunday.

b. No flying in the area above the READY area and parking lot. All flights will be conducted within the modified flight line area in front of the pilot boxes.

c. No take-offs or landings in the READY area regardless of the type of aircraft propulsion.

d. Pilots continuously monitor for full scale aircraft and immediately yield to them.

e. Based on the wind direction, the usual flight pattern will be an oval with the leg over the runway being into the wind and then turning away from the pilot's position. It shall be the responsibility of any pilot deviating from this pattern or in any way obstructing it, to advise and secure the agreement of any other pilot in the air.

f. Low altitude aerobatics over the runway must not interfere with other pilot’s vision of their aircraft.

g. Aircraft performing any maneuver, other than landing, over the runway (such as hovering, high speed passes, etc.)shall do so no closer to the pilot’s stations than the centerline of the runway.

h. Low altitude, high speed passes down the runway are not permitted except when there is a single pilot flying or through mutual agreement among the pilots flying.

7. All aircraft are to be piloted from the pilot positions. The only exception is when a pilot needs to stand behind theiraircraft for takeoff and afterwards must immediately move back to a pilot position.

8. Pilots are to communicate with other pilots for entry onto the runway, takeoffs, landings (touch-and-go or full stop), dead stick landings and any other information related to good communications and safety.Emergency and dead-stick landings have priority over all other runway and flight activity. Normal landings have priority over takeoffs.

9. Mufflers or pipes are required for the operation of all internal combustion engines above 0.10 cubic inch displacement.

10. All spectators and visitors must remain behind the work tables or behind the established fence.

11. For the purpose of these field rules, the following definitions apply:

a. "Qualified flyer" - a person who has mastered the basics of safe flight as defined in the Club's flight training outline.

b. "AMA guest" - an AMA member who is visiting the area and would not normally be expected to be a club member.

c. "Visitor" - a person interested in R/C model aircraft and would not be expected to be an AMA or club member.

d. "Spectator" - a person, who is visiting the field, to witness a demonstration or competition.

Adopted 3/12/2013 by vote of the members.