

# **Mad River Flying Association Flight Training Program**

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## **Introduction:**

### **Welcome to the Mad River Flying Association student pilot training program!**

The members of "MRFA" wish to welcome you, your family and friends to the Urbana Model AirPark and support your desire to learn and undergo the wonderful experience of Radio Controlled Model Aviation Flight.

Upon completion of some "introductory" flights with use of MRFA supplied airplane and equipment, you will decide if R/C Model Aviation is for you, and enter into our formal training program.

## **About Us:**

MRFA was founded with the principals of providing an organization to promote model aviation, train new comers to the hobby and supply a common ground for all hobbyist to share their love for aviation.

The Mad River Flying Assoc. is an Ohio non-profit organization and was conceived in 1993. Wayne Brunotte & David Millner already involved in radio control made the decision to place an add in the local newspaper to see if there was any interest in developing a club in the Urbana area. A meeting date was set and the first open meeting saw 20 people in attendance. Thus MRFA was born. At the following meeting a name was established, officers elected, by-laws and constitution were written and adopted.

With the basics defined and the new membership eager to fly the next item on the agenda was to establish a flying site. With the help of Mr. Wendell Weller, MRFA had a temporary home at his private full scale landing strip. We were in the air! With the help from the entire Weller family we had a beautiful home. The club still needed to focus on obtaining a permanent site.

The club approached the city of Urbana with a proposal to transform the old city landfill to a model airpark. After showing that many communities had done the same thing, the city approved of the idea and we set forth with our plans. The local firm, McKeever Excavating was a major player in the development of the site. They trucked in nearly 60 loads of topsoil and provided the grading of the runway surface. Shortly thereafter the runway was seeded and prepared for use.

In June of 1994 MRFA moved to its new home at 1217 Children's Home Rd. We wish to extend a warm welcome all visitors. You will find us flying many different evenings of the week, but will have the best luck finding someone at the flying field on Sunday afternoons and evenings. Please feel free to go to our contact page to email members or officers for additional information about the club, how to join and learn more about radio control flying.

## **Goals and Objectives:**

It is the intention of MRFA to teach you all of the necessary skills and abilities to become a proficient pilot. You must understand and follow the SAFELY rules of our club, basic aerodynamics, preflight an aircraft, start an engine, taxi (drive on the ground), take-off, fly, land and shut down the engine and electronics on the aircraft. We will provide the necessary knowledge for successful completion of this training program.

## **What Do You Need?**

To get started you will need nothing but the desire to learn!

All of the necessary equipment for your introductory flight (as described in the Introductory Flight section) is supplied by MRFA, this includes the Airplane, Electronics and Fuel.

## **Program Rules:**

After you have had some introductory flight time, you should now know if entering into the formal training program is what you want to do. The rules of the program are designed to establish organization for both you and your instructor(s).

It will be the responsibility of the student to pick from the available flight times posted on the attached schedule. You will be required to contact the instructor for that day a minimum of 2 hours ahead of the scheduled flight time to confirm your intention to fly and to see if the instructor deems that the weather for that particular day is suitable for training. It is important that the weather conditions are reasonably good for a new pilot and only your instructor will be able to decide if your current skills can handle a particular weather condition.

It will be an expectation that the student train a minimum 2 days / sessions per week, preferably on the days you choose when you sign up and alternative days when the weather does not cooperate. It is important that once you make the commitment to train, you must attend the minimum of 2 sessions each week in order to keep your acquired skills from the previous session. The average time to learn is usually between 5 and 10 hours to learn enough to solo, each person is different and may require more or less time to complete the course. A day / session of training will typically consist of several 10 to 15 minute flights, the aircraft is capable of longer flights, but it is better to keep the flight time short, especially during the first couple of sessions. After each flight, a discussion about the flight will take place, sort of a question and answer session. Every student will reach a point of "saturation" where they need to stop for that day / session, to prevent information overload. The instructor will determine when the training is over for the day. If you cannot commit to a minimum 2 sessions per week it is recommended that you not sign-up for the formal training program.

The Academy of Model Aeronautics allows MRFA to let you fly for a period of 30 days before it becomes Necessary to join the AMA, this is for insurance purpose.

MRFA allows 3 visits to the field each year as a guest before you are required to join the Mad River Flying Association.

## **Introductory Flight Definition:**

An introductory flight is an opportunity for someone who has never flown a Radio Controlled model Aircraft to decide if this hobby is something that they wish to pursue, and will be limited to 3 individual Flights before the student is expected to enter a formal program. During the introductory flight the student should simply be allowed to fly around and get familiar with the characteristics of R/C flight. No formal program is defined. The instructor will have the student transmitter (buddy box) throttle preset to about ½ and will ask the student if they are ready to take over, when the student answers yes the instructor will switch control to the buddy box and verbally state "its yours, or you have it" and the student will fly by verbal direction of the instructor, as the student pilot DO YOUR BEST, and do not give up flying the airplane even if you feel as if you have no control, the instructor will regain control well in advance of their personal skill and ability. The instructor will then say "I have got it" so you know that he is now flying the aircraft and then repeat this process of hand off back and forth between instructor and student pilot.

## **Training Cost:**

The MRFA training program is FREE, the instructors are volunteers, and no one profits financially from your interest in learning to fly. The goal is to promote Model Aviation and hopefully have you join our organization as new supporting member.

It is possible that MRFA may require a small donation to cover the cost of fuel used during your training program, this fee should not exceed \$10.00 to \$20.00 depending on the amount of fuel used.

## **Aircraft Recommendations:**

Your best chance at success and shortest period of time spent training is obtained using an aircraft with high wing configuration, our recommendation is much like the club owned aircraft that you have most likely seen or even flown by this time. A .40 size engine (or Larger) mounted on a high wing plane with dihedral is the most forgiving and easiest to fly. Your instructor will answer you specific questions related to proper equipment and make appropriate suggestions. Unfortunately many aircraft advertised today as “Trainer Aircraft” are actually difficult to fly, much like the myth that a glider style airplane is easy to fly...well yes, they are, but by no means are they easy for a beginner to learn with.

If you currently own an airplane prior to our chance to make recommendations, it shall be at the instructors discretion as to whether or not they elect to spend time training you on a less than desirable aircraft. If you show up with a P-51 Mustang or Extra 300 type of aircraft, don't be surprised if they elect not to allow the use of these aircraft, they ARE NOT trainers.

## **Ground Training – Basic Aerodynamics:**

The ground training is simply a communicated understanding of how the aircraft functions, a clear understanding of the control surfaces and their function is discussed.

## **Ground Training – Preflight:**

A preflight of the aircraft is most important to predetermine the proper function of the aircraft. Before any aircraft is taxied onto the active runway, the engine should have been run-up with the nose of the aircraft held higher than the rest of the aircraft to determine that mixture setting of the throttle needle valve has been properly set. All control surfaces checked for proper function and direction of travel.

## **Safety:**

Safety is everyone's responsibility!

Safety is necessary to ensure that no one is injured because of our hobby, some of our model engines turn in excess of 15,000 RPM, and with today's plastic and carbon fiber props these can inflict serious injury. The proper operation and hook-up of our electronics to the control surfaces is also important so the likelihood of an aircraft becoming an unguided 7+ pound 80+ MPH missile is avoided. We must be conscious of what we do and how we do it. Following all of the field rules, and operation in accordance with AMA is a must.

## **Flight Training – Program Agenda:**

The program agenda is simple, our goal from the first day out is to get you to “line-up” with the runway. In order to land the aircraft you must be able to line up with the runway and hold that line from the beginning to the end. We will simply begin by having you use the right stick only to control the ailerons and elevator for left and right “roll” and the elevator for “up” only. You will not need to input any down elevator since the aircraft wants to come down all by itself and throttle / rudder will not be necessary for your first few sessions.

### **#1 Line-up and Holding Altitude**

We will begin by having you use a neck strap to hold your radio, and teach you to use both thumb and forefinger to hold and move the joystick gimble. We will discourage the use of thumbs only because you will have far better control of a model with both finger and thumb. The instructor will take the aircraft off and have your radio transmitter (buddy Box) throttle setting preset to about ½ throttle and use the same handoff technique as described in the Introductory Flight section. We will then begin to fly a circular pattern around and over the runway in a direction either left or right-hand pattern depending on the wind

direction that day. You will then fly around the pattern so that ½ of your circular pattern is directed over the runway. I like to have the student visualize an imaginary set of poles at the beginning and end of the runway (like football goal posts). Then try to fly between these at the beginning of the runway, hold that line all the way to the end of the runway, then turn left or right (depending on wind condition). Fly a ½ circle about 50 to 75 yards wide and hold the down wind leg (flying with the wind direction) parallel to the runway and about 50 to 75 yards out all while maintaining your altitude of about 200 feet up. Repeating this type of pattern until you are proficient at holding the proper line, and able to perform consistent turns while maintaining proper altitude and not require the instructor to “save” or regain control of the aircraft for you.

### **#2 Throttle Changes**

Once proficient at step one, we will then begin having you make throttle changes while performing the same task as described in step #1. You will now be required to “throttle-up full” or “abort” while over the runway and directly in front of yourself, you will hold the full throttle condition until you have made your ½ circular turn and heading back “down wind” parallel to the runway 50 to 75 yards out. Then you will reduce throttle to 1/3 or less before entering into your next ½ circle and lineup with the runway. Then using 1/3 or less throttle until you once again pass in front of your self, then applying full throttle again repeating this cycle all while holding the same altitude. The purpose of this exercise is to get you used to using both of the “joysticks” and subdividing your attention between the task of flying the aircraft while adjusting the throttle up and down.

### **#3 Throttle and Altitude Changes**

After completion of steps one and two you will still fly the exact same pattern with the same throttle changes, only now you will be changing altitude also. While in the throttle-up mode over the runway and in front of yourself, you will be adding some up elevator to gain or maintain an altitude of about 100 to 150 feet. Then as you complete your turn and begin your down wind leg you will be allowing the aircraft to lose altitude while decreasing the throttle (just like you did in step two). Next, trying to time the loss of altitude and decrease of throttle so that you are set-up for a landing at the beginning of the runway 25 to 50 feet above the beginning of the runway and holding this (or less altitude if your instructor is comfortable). Then starting the cycle over again by advancing to “full throttle” or “aborting” and adding some elevator for the climb out.

### **#4 Approach and Landing**

After you have been able to demonstrate proficiency on all of the above steps, the next step is to simply allow the aircraft to “settle in” and land. From your approach to the runway with 1/3 or less throttle and an altitude of 25 to 50 feet or less, just keep holding your “line” as best as you can. With only very minor corrections in order to keep the wings level, cut the throttle to idle speed adding small amounts of up elevator (flaring) to keep the nose up and allow the plane to finish losing speed all by itself and finally touching down. If at any time the landing approach does not look good or you feel uncomfortable just apply full throttle and fly away just like you practiced in step 3, it that easy, do not force a bad landing, keep aborting and going around until everything looks good then land!



