FLIGHT TRAINING HANDBOOK
For Student Pilots

Flight Training Handbook

The purpose of this handbook is to provide an outline of the basic knowledge and skills that instructor(s) will teach at the flying field. The object of this flight-training course is to teach students to fly safely, and to provide a basic understanding of their equipment and its limitations. This course is organized in a progressive series of lessons that will enable students to gain insight and understanding in easy steps.

The amount of time required to learn to fly depends on the students aptitude and how concentrated the flight time is. That's entirely up to the student. People learn at different rates and it has nothing to do with whether or not they will become good fliers. It's just human nature. If the model and radio are in proper working order for every lesson, time will not be wasted at the field and training will progress more rapidly.

Students should not become discouraged, it takes a lot of practice to become a proficient RC pilot. If you have the time, it is a good idea to get together with a competent pilot to get in more flying time.

Do you want a great instructor? Easy, just be a great student. Don't be afraid to ask for help. At one time every club member was a beginner and knows that there will be questions and problems. They're more than willing to help. And don't worry about how long it will take to solo. Worry about learning each step well before you solo.

The following is a summary of what the instructor will be teaching at each lesson. By the time the course is finished, the student will be armed with the basic knowledge and skills to become a responsible and safe flier.

There is space after each lesson for comments, which you should have filled out by your instructor after each lesson. This will enable the next instructor to know what lesson you are working on and what areas need review. No time will be wasted and no part of the course missed. Each lesson is important

Disclaimer: While every effort is made be DCRC training staff for my safety and my plane's safety, accidents can happen. Therefore I agree to hold the DCRC Club, its membership and its Flight Training Staff harmless in the event of any unforeseen accident, damage or injury.

ACCEPTED _____

Students, or parent if a minor, signature

WALT GOOD R/C FIELD

FIELD AND FLIGHT RULES

DC/RC RADIO CONTROL CLUB
GERMANTOWN, MARYLAND

Use of the "Radio Control Flight" area at the Montgomery County Model Airpark is restricted to people who are: (1) members of the Academy of Model Aeronautics (AMA) or DC/RC as evidenced by a current membership card and (2) proficient in the safe operation of a model aircraft as demonstrated by a pilot proficiency test administered by DC/RC. Flyers who complete the pilot proficiency test are issued a pilot certification. DC/RC members (or their guests) who are not certified or participating in the flight instruction program may fly while accompanied by a certified member.

All flyers shall comply with the current official AMA National Model Aircraft Safety Code, as it applies to Radio Control Flying. All flyers shall comply with the current Official FCC and Amateur Radio Service Guidelines and Rules governing the operation of Radio Control Equipment for the control of Model Aircraft. Pre-1992 transmitters operating on the 72 MHz. band shall display a narrow band gold sticker. Each transmitter shall also display the correct channel number and colored streamer on its antenna as outlined by the AMA.

PLACE YOUR TRANSMITTER IN THE IMPOUND UPON ARRIVAL.

Before turning on a transmitter, frequency control shall be obtained. To control the frequency, **place a DC/RC MEMBERSHIP CARD into** the proper channel space on **the FREQUENCY CONTROL BOARD**. If there is already a card on the channel you wish to use, notify the user of that channel that you are waiting. **DO NOT TURN ON YOUR TRANSMITTER UNLESS YOU HAVE CONTROL OF THE FREQUENCY.** Control of the frequency is limited to 15 minutes. **WHEN FINISHED, RETURN YOUR TRANSMITTER TO THE IMPOUND** and retrieve your card, verify that your **transmitter is OFF**.

Airpark hours of operation are 8:30 a.m. until dusk, Monday – Saturday; and 9:00 a.m. until dusk on Sunday and Federal holidays. ***These hours must be strictly observed or airpark sound restrictions could be violated!***

THE COUNTY'S 65 dBA SOUND LIMIT SHALL NOT BE EXCEEDED. THIS SOUND LIMIT IS MEASURED AT THE PROPERTY LINE. Models will comply with AMA sound rules for RC Aerobatics which are **"96 dBA measured at three meters from the center line of the model with the model standing on concrete or macadam, and 94 dBA on an earth or short grass surface…"**.(**Special exceptions** will be granted for models that exceed the AMA limit but do not violate the county's 65 dBA limit. These planes **must undergo additional in flight sound measurements** made at the property lines. These planes **must be flown alone at all times** with no other models in the air.) DC/RC members can have their models tested by the club's sound and safety officer and will be issued a sticker to affix to their plane.

Flight Operations

Fixed Wing Aircraft

Takeoffs and landings shall be essentially parallel to the flight line. Direction shall be determined by a consensus of the flyers present. No more than five (5) aircraft in the air at one time. Pilots shall control their planes while standing on the designated pilot blocks behind the safety fence. **NO FLIGHT OPERATIONS ARE ALLOWED BEHIND THE FLIGHT LINE OR OVER THE PIT/PARKING AREA. AT NO TIME SHALL AN AIRCRAFT BE INTENTIONALLY FLOWN OUTSIDE THE BOUNDRIES OF THE SAFETY ZONE INTO THE BUFFER AREAS.** This is for both sound and safety reasons.

Dead stick landings have priority over all other traffic. Prolonged engine operation is not allowed in the pit or pilot area. No taxiing in the pits. Aircraft with obvious defects or problems should not be flown until the aircraft is fully airworthy.

SPECTATORS ARE NOT ALLOWED IN THE PIT AREA or on the flight line unless escorted by a flyer who shall be responsible for their actions. Pets are not allowed in the pit area and shall be leashed at all times. Flyers should not enter private property without first obtaining permission from the owner. **ALL CRASH DEBRIS MUST BE THOROUGHLY REMOVED FROM THE CRASH SITE.** Please keep the field and outer areas clean and free of trash.

Helicopters

No more than five helicopters shall be in the air at one time. They shall be flown in the designated helicopter area. **NO FLIGHT OPERATIONS ARE ALLOWED BEHIND THE FLIGHT LINE OR OVER THE PIT/PARKING AREA**. Helicopters shall be hand carried from the pit area to the flight line.

Courtesy and common sense should govern activities at the field not specifically covered by these rules. **FAILURE TO COMPLY COULD INVALIDATE AMA INSURANCE COVERAGE FOR YOURSELF AND THE CLUB, AS WELL AS CAUSE RESTRICTION FROM USE OF THE FIELD, AND POSSIBLE REVOCATION OF YOUR CLUB MEMBERSHIP.**

SAFETY IS NO ACCIDENT.

INTRODUCTION: Radio and Field Procedures

The first time you bring your plane to the field a member of the DCRC Flight Training Staff will do a thorough inspection to make sure the plane is airworthy. They will check that all control surfaces are properly attached and move correctly. Engine mounting, servo mounting and control linkage is checked as well as the balance (CG). The staff will help with engine break-in and tuning if needed.

You will be acquainted with your radio, normal and abnormal operation, interference, and conducting a range check. Your instructor will also explain the field facilities for the models and radios along with field procedures and field rules for safe and courteous operation. See the field rules and the description of the frequency control system at the front of this book.

FIRST FLIGHT

During this lesson your instructor will fly your model to verify its airworthiness and handling qualities. He will then explain the controls and what kinds of reactions you can expect. He may, at any time, present you with a list of items to be corrected before the plane flies again. You will be expected to correct these on your time. Only after your instructor is satisfied the airplane will fly safely and has been trimmed for straight and level flight, will he have you take the controls, and then, only after the model is at a safe altitude. By using a “buddy box” the instructor will keep you out of trouble. Just relax and get the feel of the controls. Listen to your instructor. He will “talk” you through each control function and you will observe the plane’s responses. If you get nervous, which happens occasionally, tell your instructor and he will take the controls. Remember, all you want to do during this lesson is get the feel of flying the model and begin to understand the dynamics of model flight. There will be a number of flights where you are only allowed to fly in the air; no takeoffs or landings.

PROGRESSIVE TRAINING

After you have gotten the feel of flying your model, your instructor will teach you the five basic maneuvers required to get around the sky. They are:

1. Level flight
2. Banked turns
3. Straight climbs
4. Gliding
5. Climbing turns

Your instructor will also explain disorientation. This is a problem that everyone experiences sooner or later in flying models. Basically, disorientation occurs when you. Become confused about the direction or orientation of your model. For example, when the model is coming toward you and you start a left turn, the model will turn left, but it will move to your right! Your hands have told your brain: Left; but your eyes are telling your brain:

Right! Result: Disorientation. Experience will teach you how to respond to this problem. It's like learning to balance when riding a bicycle. Learning directional control when the plane is heading towards you takes practice. Your instructor will help you.

ACCURACY MANEUVERS

Now that you can fly around and do the basic maneuvers, it's time to start learning how to control your model with precision. Again, you will be working with the five basic maneuvers, but now turns will have to be more exact (90 or 180 degrees) at a constant altitude. The whole idea of these lessons is to improve your skill and ability as a flier.

ORIENTATION MANEUVERS

During these lessons your instructor will have you fly a figure-8 pattern and a rectangular pattern. The purpose of these maneuvers is to discipline your reflexes and judgments. Decide to really master these maneuvers. Their importance will soon be evident.

STALLS AND RECOVERY

"If you pull back on the stick, the airplane goes up. Pull back some more and the airplane goes down!" That's a stall. But there's a little more to it and in this lesson you will learn to recognize and recover from stalls. More important, you will learn how to avoid unintentional stalls. Each airplane has different stall characteristics but the concepts are the same.

TAKE-OFFS

Take-offs are nervous times because the model is near the ground and if it's not properly controlled, trouble can happen very fast. So, during this lesson, your instructor will explain the forces that affect a model during take-off and will assist you in making your first take-off. Once you have mastered the skill to maintain a straight line on take-off, you've got it made.

APPROACHES TO LANDING

In this lesson you instructor will discuss how to land your model. You will fly a rectangular pattern again, and this time you will learn how to make a descent in preparation for landing. You'll get to practice this maneuver up high and as you become comfortable with it, the altitude will get lower. A good landing is always preceded by a good approach. As with full size airplanes, attitude controls speed and power controls altitude.

LANDINGS

At the time the approaches are fully under control you keep getting lower and lower and all of a sudden you are landing. Only this time you need to remember to flair at the last moment. If at anytime things don't look good, go around and try again.

SUPERVISED SOLO

At some point you will become proficient in all preceding phases of flight. It is time to solo. You will conduct a flight starting with getting your transmitter from impound, and ending, after you fly, with your transmitter back in impound. Your instructor will monitor this lesson and assist you when necessary. All you have to do is demonstrate good judgement, observe the field rules, and conduct your flight in a safe manner. Your instructor may have you do several supervised solo flights before this lesson is considered complete. When it is, check your logbook for the names of all your instructors. Search them out and thank each one. This is the only pay they receive.

BASIC AEROBATICS (optional)

This lesson is designed to acquaint you with what to do in unusual attitudes and in an emergency. If your model is capable of the maneuvers, your instructor will show you how to handle cross wind take-offs and landings, dead stick landings, and other difficulties. He will discuss any questions you have related to flying. The purpose of this lesson is to help you prepare for the unexpected. He may cover loops, rolls, spins and snaps. Put these maneuvers together, add practice, and you can do almost anything. It's just a matter of "Stick-time & Stick-timing."