

GETTING STARTED IN RC MODELING -SOFTWARE
(WHAT TO DO BEFORE GETTING YOUR FIRST MODEL AIRCRAFT)



So you are interested in taking up the sport of Radio Control Model Flying. Your interest could have developed in many ways. It could be you passed a newsstand and saw one of several fine RC Modeling magazines on the shelf. Ironically, it might have been a newsstand at the airport on your last trip! You bought it and now want to join the fraternity.

Or maybe you were just driving by a model flying field and liked what you saw? Your first exposure to RC modeling could have been while walking through a mall with your family and stumbling upon one of the hundreds of “Mall Shows” local AMA clubs sponsor every year. There were dozens of bright sport airplanes mixed with miniature replicas of full size airplanes (called “scale models”) and a few really big aircraft. There were also lots of friendly people who just enjoyed sharing their love of the sport with you. There are a lot of great people in RC (in all modeling actually).

Maybe one of your children attended an AMA-sponsored school program, or saw a model flying on TV? Finally, maybe, just maybe, you used to do this twenty years ago, or as a youngster, and had to stop for some reason? It could be that your early efforts, with the limited technology then available, were not as successful as you had hoped. But now you want to try again. Great, because the technology is a *lot* better now.



Photo A Photo B

Best of all, maybe you are looking for a hobby that you and your children can enjoy together. Or maybe you are looking for something you can enjoy doing with your parents? If so, either of you have definitely chosen the right sport. If a friend already in the sport has influenced you, you are one of the lucky ones.

There is nothing a dedicated RC pilot likes better than to brainwash, uh, excuse me, “provide valuable information to”, a new convert. In this case, listen to your friend and follow whatever

guidance is provided. But also try to get additional information from magazines, other flyers, model discussion websites and other information sources as well.

Those going it alone need a bit more assistance. But how to start? There seems to be much to learn and a lot of skill required. How can you learn it all and still keep the fun factor high and the frustration and expense factors low? As a matter of fact, *are* you able to learn it all? After all, you may wear glasses and you are not all that good at your kids' video games.



Photo 1 Photo 2

Most new RC pilots can go from this auto-pilot equipped Hobbico NexSTAR trainer to this aerobatic Dave Patrick Extra 330L in just two flying seasons. And both airplanes arrive almost completely pre-built.

While several whole books have been written about getting started, we will try to condense this knowledge into one article. There may be some personal opinions expressed in this article (all identified) but please remember that they have been formed during 34 years of teaching RC to over 500 students. Our main goal is to help every prospective RC pilot to start, progress and succeed in their chosen modeling format with a minimum of frustration and few setbacks.

First of all, forget any special physical requirements. The sport of RC is open to just about anyone. You do need to be able to see at least 20/30 with correction. You do not even need both eyes as I have known two students who flew with only one (each that is). I myself am nearly legally blind without my glasses, yet compete in [Precision Aerobatics](#) (called Pattern) and have won several Regional Championships.

I have seen great model pilots in wheelchairs, with hearing or speaking challenges, RC pilots who are in their early 90's and a few as young as four years old. One four-year old starter is currently the 2004 US Precision Aerobatic Champion and has been selected to head up the US Precision Aerobatic World Team in 2005!



Photo 3



Photo 4

There are almost no physical requirements, especially the fact that you do not have to be male to enjoy RC flying. The Goldberg Tiger II this young lady is holding (left) is a perfect second aircraft.

She now flies Intermediate Class Precision Aerobatics (right). Btw -The Hangar 9 Extra Easy trainer pictured in Sport Aviator's Model Aviation ad belongs to another lady member of our club. Insert photos 3 and 4 here, centered and with caption centered below both photos.

The same hand/eye coordination skills needed to drive a car will make you a super RC pilot. Nor do you need to have special technical knowledge. You do not need to know *anything* about electronics nor do you need any idea how to build a model engine. In today's modeling world, *you don't even need to know how to build a model aircraft*. The RC industry has done all that work for you.

So now that you know you qualify, lets get started. Our first recommendation is to read through Sport Aviator (no surprise on this one). Since Sport Aviator is dedicated just to new model pilots, there is a lot of information here that can save you hundreds of dollars and hours of frustration. Sport Aviator is provided free as a service of the Academy of Model Aeronautics (AMA). The AMA, www.modelaircraft.org, is the largest sport aviation organization in the world with over 180,000 members.

The next thing you need to do is to *join* the AMA, for several good reasons. One is the information about the world of model aviation and the in-depth technical information contained in Model Aviation magazine. This nearly 200-page color magazine is sent monthly to every AMA member. Another good reason is the \$2 million liability insurance coverage provided to AMA members as part of their membership dues. Just about every model airport in this country requires this insurance. To join, just click the membership button on the right side of Sport Aviator's Home Page.

OK, AMA commercial over. So what is the third step? The next step is NOT to buy a model. Not yet anyway. First, you should find an RC model airfield. If you know where one is, visit it on a Saturday or Sunday. The best time is usually between 11 AM and 2 PM. The most number of pilots will be there during this time, including instructors. And you will need instruction to fly RC the first time.

I can't stress enough the fact that an inexperienced RC pilot CANNOT FLY a true four-channel RC trainer aircraft ALONE. No matter how good you think you are, how easy the package says the model is to fly, how much RC simulator time you have or how experienced a full-time pilot you may be, it will not happen. Even if autopilot equipped, like the [NexSTAR](#), every new pilot needs an experienced RC pilot to make a successful first flight.

Remember that the aircraft will need flight trimming to fly straight and level. Autopilots also require flight trimming before they can operate. As good as RC simulators are (see Sport Aviator's [Virtual Skies](#) article), things look different in actual flight and seem to happen a whole lot faster. Plus, there is no "reset" button in real flight.

As to flying full-size, those skills just do not transfer. There is no "feel" of what the model aircraft is doing, as there is when flying full-size. Since you are not in the cockpit, all your viewpoints are different. Aileron and rudder controls reverse when the model flies towards you unlike flying full-size. Rudder is controlled with your left hand, not your feet. I could go on, but I think the point is made.

You need to get experienced help for your first RC flights. This is why you need to find an RC flying field.

If you do not know where an RC field is located in your area, look in the yellow pages. Find a retail hobby store near you (there almost always is one). Check each ad and go to the one that specifically mentions RC model AIRCRAFT. Many hobby stores carry lots of train and RC car equipment, but few aircraft supplies. It is usually best to visit the store and ask where a club field is located.

If you can't visit, call them on the phone. Be honest and tell the store staff that you are interested in learning to fly RC. There is usually one or two clubs in your area that are better organized to assist newcomers. Not all clubs are great at this demanding task. If they know you are just

starting, the store staff will usually direct you to the best club for newcomers. They will usually have a map of the field's location to give you.

While you are at the store, look at some of the trainer aircraft in stock, both [Ready-To-Fly \(RTF\)](#) and [Almost Ready-To-Fly \(ARF\)](#). But don't buy anything just yet. That comes later after you have visited the field and talked to a few pilots there.



Photo 5 Photo 6

An RC field can be a busy place on weekends. But these are usually very friendly folk and love to talk about model aircraft and especially like helping prospective flyers get started.

Once at the field, just observe for a few minutes. It may look confusing at first, but all the chaos is really fairly well organized. If one of the pilots approaches you to say hello, you really *have* found the right club. Join now! But usually you will have to make the first contact.

Don't worry. Remember that this is a hobby/sport and there are few things people like to talk about more than their hobby. The only question is to whom your first approach should be made? There are two schools of thought on this. Many suggest that you approach the person flying the largest or most complicated aircraft. These pilots are usually the most experienced and could also be club instructors. But then, these factors are not always certain.

My suggestion is that you look for a pilot with a 5-6 ft. wingspan aircraft, with the wing on the top; who is flying without help from anyone. This will be a recently graduated student pilot. Say hello, tell him you enjoyed watching him fly and that you are interested in becoming an RC pilot as well. At this point, the pilot will tell you thanks for the compliment but that he is also just beginning. He will then point out either his previous instructor or another club instructor as the person you should be talking to and will introduce you to them. Guess what? You have just met the club members most qualified to assist you and did it in less than five minutes.

Usually, it's very easy from this point onwards. Find out if the club has training programs, special training periods (usually evenings during the week) plus when and where the club meetings are. If you do already have an aircraft and field equipment to start it, bring it all with you. The instructor will go over it to make sure it is airworthy. If it is, you will probably be flying in about 30 minutes.

But it is usually best to make your first field visit without an aircraft. That way you can pay close attention to the field "etiquette" and watch how things work. Each club is different.

If there are several pilots using the same radio frequency (channel), only one may fly at any one time. If someone turns on a transmitter that operates on the same channel as does a plane in the air, there is a good chance that the airborne model will crash. The person turning on the second transmitter is usually held responsible for the damage. NEVER turn on your transmitter without first following your club's frequency control system to be sure your channel is not being used.

Due to AMA's efforts with the FCC, there are now 50 aircraft radio control channels. Every transmitter has its channel number on the back and on the outside of the original box. Channel

numbers range from one to fifty. There are not as many “channel conflicts” now as there once were, but they are still a common occurrence.

Photo 7
(Coming soon.)

A typical frequency control board. When it is a pilot's turn to fly, the pilot removes the channel pin from the board and inserts their AMA card in the slot. If another pilot is on the same channel, they will know that the channel is being used and who is using it. This information makes it easier to work out a flying rotation.

Watch how the pilots on the same frequency work out a flying rotation so every pilot enjoys equal flying time. When you are ready to fly, use the same methods to join the rotation. Many clubs also limit the number of airplanes that may be airborne at any one time, usually four to five. A flying rotation is also used to meet this requirement so be sure to watch how your club works this out. Then you will know what to do when it is your turn to join in. Your instructors will tell you many of these things, but it is always good to see it for yourself as well.

Since we are discussing instructors, there are a few points to consider. First, RC instruction as a member of an RC club is almost always without charge. Well, without a monetary charge that is. There is a hidden cost. Once you become a good RC pilot, you have a responsibility to pass along what you were taught. But that is a few years from now, so don't worry about it.

Like you, instructors are enjoying their sport. Be considerate and allow them time to fly their own aircraft as well. If you find you really like working with one particular instructor, then make appointments with that instructor to meet at the field at a particular time.

Sometimes it happens that no instructor is available when you are at the field. This can be frustrating. Sometimes a more experienced pilot will be there and can fly with you. Sometimes this is not the case. Always resist the temptation to fly yourself before you have learned enough to do so safely. You will only lose your aircraft, break AMA and club rules and have no one to blame but yourself.

There is an alternative to this traditional RC learning method. If you check some of the advertisements in Model Aviation and other RC-oriented magazines, you will see ads for professional RC flight schools. These schools do charge for instruction and you will also have to pay for room and board while attending the school. But the instruction is concentrated, focused and performed by really instructors with good teaching abilities.

There are no frustrating “instructor-missing” occasions. Therefore, you learn to become an RC pilot much sooner at a professional school. But it takes time away from home, usually one to two weeks, and can be expensive.

Speaking of time, how long does it take to acquire the basic skills needed to safely solo if you are learning with club instructors? This depends on several factors. If you are over eighteen, can fly only one or two days on the weekends and do not have an RC simulator, it will take about two months to solo. If you are under eighteen, with lots of computer game time, plan on needing just two-three weeks of weekend flying.



Photo 8



Photo 9

RC simulators like this one from the Hobbico NexSTAR are so good that they shorten learning time for new pilots. Sometimes, a new pilot can solo is just two weeks if they log sufficient simulator time.

For those of us over eighteen, don't despair. There are now many great RC simulators available that allow us to catch up to the younger generation. My own experience has shown, and this is mine only so it is an opinion, that simulators can reduce learning time to as little as two-three weeks for everyone. Simulators help build eye/hand coordination. They also allow the student pilot to fly more often since it is often not possible to get to the flying field every day.

What simulators do not do is impart engine tuning information, teach pre-flight skills, encourage flight planning, let the student learn traffic patterns and most importantly, they do not teach the student how to best fly at his home field with its varying wind conditions, obstacles and runway variations.

RC simulators usually cost between \$150 and \$250, depending upon your selection. This is almost as much as your first RTF model. But you can fly a simulator when it is raining outside or even in the dark (outside dark that is)! Check Sport Aviator's article, "[Way Up High In The Virtual Skies](#)" for more simulator information.

Finally, lets answer the five questions every visitor to an RC flying field asks. Since serious prospective RC pilots *should never ask* these questions, here are the answers so you will not be tempted to pose them on your first visit.

Did you build it? -- The answer to this is always yes, even if you didn't.

How much does it cost? – It is easy to get started in the sport for less than \$400, including everything. You do not need to tell anyone the cost of your particular aircraft.

How far away can it fly? – The control system can operate the model even beyond visual range. But if the model is so far away that it cannot be seen, then it is not possible for the pilot to fly it. Our usual maximum distance is 1/3 of a mile.

Can this plane carry bombs and things? – Emphatically, no it cannot. The model's carrying ability is limited to a pound or so and that weight would have to be centered in the fuselage, right where the radio is located. Since the radio is needed for control, the model really can't carry anything extra.

And The Dreaded Question:

How often do you crash? – Modern radio control systems are so reliable and model engines (motors) so easy to operate that crashes very seldom occur. Even if the model is completely destroyed, the engine and radio system usually survive to be installed in another model aircraft.

This first article covered some aspects of the non-model part of getting started in RC. The following article will deal with the "Hardware" needed to get started.

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