

# **Guide To RC Hobbies**

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#### **Activities For Radio Hobbyists**

Amateur radio or ham is largely a hobby activity. The majority of the hobby time is spent on making contact and having conversations with people in distant regions and from different cultures. Two way communications, identifying their location and station, zone, region and place is the usual custom. This is always followed by other casual communications. If the contact is made for a contest to make two way communication with as many stations or ham radio operators as possible, this all the information that is shared.

# DX-ing and DX-peditions:

An amateur radio operator's main hobby is to make contact with as many stations as possible from as many parts of the world as possible. DX stands for Distant Stations. The DX-ing usually is followed with the QSO. (a Q code., see below) which means "a conversation".

DX-peditions are different in the sense that they are expeditions organized / planned solely for the purpose of making contacts with some special or rare stations and regions. Some people travel long distance just to make contact with some unrepresented region or place.

Radio Frequency scanners available now a days form the tool of great use in these attempts. The radio scanner scans for signals until a strong signal is found and so on.

#### QSL cards:

The Q code is a standardized collection of three-letter message encodings, all starting with the letter "Q", initially developed for commercial radiotelegraph communication, and later adopted by other radio services, especially amateur radio. In today's audio signal transmission age, the Q codes are not essential. but still in use and are viewed as a sort of tradition.

As a part of DX-ing and DX-peditions the QSL card or the proof of contact card is shared. QSL is one such Q-code that means "I acknowledge receipt". The common practice was that the ones who made contact at a particular frequency exchange a QSL card in the mail to confirm their contact and conversations. These QSL cards can be used as a proof of their making contact and amateur operators who make contact with a certain number of other amateur radio operators in a specified time is awarded. Moreover, they are distinguished and honored since they are deemed to be efficient amateur radio operators.

#### Remote region contacting:

Some countries have less amateur radio operators, and making contact with these is considered special. So, when a radio amateur from these regions makes contact, other ham operators flock to make communication with this / these hams. Making contact with these less represented places has its awards and special considerations in the award programs.

#### Hamfests:

Social events for the ham families and friends. It's something akin to the family oriented social fests where there are sales, exchanges, meetings and fun. Similarly, the fest is filled with selling and exchanging hams, meeting real life ham friends and fun events for a day or sometimes over few days.

#### Discussion groups and Nets:

Ham operators form a discussion group based on common interests other than ham or it can also be a ham related discussion group and they can form nets or networks.

If a radio hobbyist gets involved with all of these different activities, he or she is sure to never be bored. Look into some of them, and see if you would like to get involved.

# **Building A Radio Controlled Car Without Breaking Your Wallet**

Across the nation, there are thousands of people who are extremely passionate about building and racing remote controlled cars. If you ask one of them how much money they could spend on building a remote controlled car, you will be surprised at the answer. It is possible to spend hundreds and hundreds of dollars on top notch equipment to create an insanely fast and good looking car. If you want to get into the hobby of building radio controlled projects, then you will definitely have to spend some money along the way. You will be faced with very expensive components. However, you don't need to buy expensive parts for your first car. Read on to find out some of the ways that you can save money.

You should never buy cheap supplies just because they are cheap. If this is your first radio controlled car, you want to get an accurate feel for the hobby without spending too much. This is why you want to buy top quality parts that will make for a great car. At the same time, you may find that the hobby is not for you at all. You may burn out on it after just a few hours of putting together your model. If this is the case, that is another even better incentive to avoid buying expensive parts for your first car. Usually hobbyists will start to invest more money and more time in their 2nd or 3rd car, after they know that they have the expertise to do it right.

The best way to build your first radio controlled car is to buy a kit that includes just the radio components and the motors. The radio control **kits** only cost 20 or 30 dollars at your local craft store. Buy it before you start to put the car together, so that you can know what dimensions you need to allow for. You can build the car itself from cheap wood and glue (And time. Lots of time.) Go to your local hobby store or lumber store and look for some sort of light wood that you can use to make the car. You will use some sort of epoxy or superglue to hold it all together.

If you would like to take an even less do-it-yourself approach, you could buy a remote control car kit that includes the model for the car. Unless you are a master craftsman, this finished product will probably look better than anything that you could have made from scratch. These **kits** are very cheap as well. You won't get much control over how the car looks, which is a huge advantage of building it on your own from scratch. If you want to make it look a certain way, all you have to do is cut the wood a little bigger or a little smaller. Ultimately it is up to you – both will give you good experience in building remote control cars, so it just depends on how much time you want to spend.

If you tried to race against some of the more advanced cars with your kit assembled car, you would be left in the dust almost instantaneously. Your car definitely won't have much power and it probably won't have much in the looks department. However, neither of these is important compared to the valuable thing that the new car has given you: experience. By sticking with the easy car when you first start getting into the hobby, you will be ahead of the game when you go to build a nice custom car. In addition to this, it will have allowed you to decide whether it is a hobby that you would like to stick with. So even if you are the type that likes to jump headfirst into things, just hold yourself back and stick with the inexpensive car kits.

# **Building The Fastest Radio Controlled Car**

Many people think of remote controlled cars as toys for kids. However, there is a huge difference between remote control cars for kids and remote control cars for adults. The complexities of the cars have a very wide gap. Kids cars will run on just a few AA batteries. RC cars for adults feature full miniature engines. Lots of the popular motor kits run on fuel such as gasoline or nitro. Others run on large battery packs that are essentially beefed up versions of kids toys. These cars require just as much maintenance as a real car, since they have all of the same components (plus all of the radio transmitting gear!) to deal with.

When building a remote controlled car, you will have many different choices regarding the quality of the components that you use to make it. You can stick with some simple hobby store components, but those are not likely to make a car that will win any races. If you want to go all-out on a project, you can get top quality parts. You should be prepared to spend some money to get what it takes, but once you have it all together you will have a car that you can truly be proud of. If you want to assemble this type of amazing car, you will need to look for several things in particular when buying components. These will help you get the maximum performance for your money.

The fastest engine choice that you can find is a nitro engine. Nitromethane is an alternative to regular gasoline, and runs much better for RC cars. It is usually heavier, and therefore more cumbersome on the handling of the car. However, if you are going to be on a fairly straightforward and tame race course, it is a great choice and will provide a huge speed. The only down side is that nitro engines are known for wearing down faster, and breaking at a higher rate. If you use a nitro engine frequently, you can almost expect it to break after intense usage. It is a good idea to have an electric engine that you can swap it out with when the need arises.

The other parts of the car are equally important when you are aiming for absolute fastness. If you are you going all-out on a project, you should expect to spend quite a bit on components like wheels and axels. Usually you want to get wheels that are extremely firm and light. If you have the opportunity to go out to a hobby store and test out a few different components, you will be able to decide exactly what you want based on experiencing it first-hand. This is the best way to shop for anything, and the same goes for remote control cars. Since the parts are usually highly swappable, you can directly compare one with another by trying them in quick succession.

If you aren't a very technically inclined person, the thought of picking all of these parts might not sound very fun. However, you might not have to go through this process. It is possible to buy **kits** that include all top of the line parts, and are quite easy to assemble. With these you won't get the high level of customization that you would get out of building a regular home-made car. Being able to choose all of the parts separately is a great benefit, although 90% of the time you can replace individual parts if you decide that you want to go for something that is of a higher quality or a little bit faster than what you had before.

All of these things really add up. If you have one part of a car that doesn't perform as well, the entire thing will be affected. Therefore you need to choose your parts carefully to have the best remote controlled car possible.

#### **Choosing A Radio Controlled Plane**

When you buy a radio controlled plane for the first time, you may have some difficulty choosing the plane that will introduce you to the remote controlled hobby. You will want something that will be fairly cheap to purchase, and will give you a chance to learn how to fly remote controlled planes before you move onto more advanced planes. If you buy the first plane that you see, you could end up having a very bad experience for your first time, and be completely turned away from the hobby. This is why it is very important to know that there are many different characteristics that you can look for. In this article I will go over most of them. So read on to find out about what you need to look for to have the best experience possible when you fly a radio controlled plane for the first time.

First you need to assess your own building skills. You can buy airplane **kits** that require you to build the entire thing from scraps of wood, or you can buy kits that just require you to snap a few parts together. If you want to make a huge, prolonged project out of your radio controlled plane, then you can buy one that requires full assembly. However, you should always be sure that your building skills are up for it. If you don't want to spend the time required to do this, or if you don't have the prowess to build it, then you can buy a plane that does not require any assembly at all. You just pull it out of the box, and you're ready to go flying for the afternoon.

Next you will want to look for something that has stability for people without are flying for the first time. It may not seem like it, but to fly a radio controlled plane you need at least some skill. But, if you search for the right item you can find something that is more geared towards beginners. Slow flying speed is always a benefit, just as driving slow is a good way to learn how to control a car for the first time. You will want a light plane with larger wings that can catch the wind better. This will make takeoff easier. You will also want to look for planes that have flat bottoms, and wings mounted high on the body. If you get a plane that has all of these features, your maiden flight will be as smooth as possible.

Next you need to consider the model of the airplane you are going to buy. You can get model replicas of almost any type of plane, from the first Wright Brothers' plane to modern military jets. If you are buying a model plane, you are probably already interested in planes to begin with. Think of what plane you are most intrigued by when you look through plane books, and see if you can find a kit that is modeled after that plane. This will give you a personal interest in the model that you are getting. When you fly it for the first time, it will be almost like being in the cockpit of the actual plane.

After you have decided on these issues when picking your plane, the rest is just up to personal preference. But if you pay close attention to these and pick your plane carefully, you will find that radio controlled flying is a great way to spend your time. It is a very rewarding hobby, and it can last you a lifetime if you choose planes that are compliant with your level of skill. After all, you don't want to go out on your first flight and then crash your plane directly into the ground or a tree. So choose your first plane carefully, and you can avoid being immensely frustrated in the future.

If you are building a radio controlled car, you will be faced with choices every step of the way. You will have to decide how to build the model, how to incorporate the radio transmitter, and how you want to paint it. You will also have to decide how you want to power your car. There are several different choices, and unfortunately there isn't one that stands out as better than the rest. Each powering method has its own benefits and tradeoffs that may affect your decision. You will have to consider these benefits compared with what exactly you want to do with your car. Here are the three main ways that you can power a radio controlled car.

The first and most basic way to power a remote controlled car is to have a battery pack running the motors. This is the kind of system that you will see in beginning cars. If implemented correctly, it can be fairly effective. Its main strong point is that it is very light. Cars using electric power can reach all new levels of lightness. However, like all of the options, there is a tradeoff: electric cars are the slowest of them all. So, you will have to decide whether you want a light car that handles well, or a speed demon that will tear up the competition. And that brings us to the next choice, which is definitely a bit speedier than the electric option.

Gas-powered cars are by far the most common when you are looking at hobby grade cars. The equipment required to handle all of the gas and combustion weighs quite a bit, and tends to make the car less agile. However, it makes up for this deficiency by being one the fastest choices. These types of motor kits are very easy to find. If you want one for your car, your best bet would be to look in some online specialty shops, or your local hobby shop. While it is not necessarily a positive aspect in my book, the fact that the cars are much louder when they run on gasoline seems to attract some people, who enjoy creating the noisy little machines.

RC cars that run on nitro gasoline are quickly becoming the most popular and fastest growing segment of remote control cars. Nitro vehicles can come in many different forms. You can build the popular and durable trucks that will take jumps at high speeds and go on off road driving courses. Alternatively, if you are trying to reach very high speeds, you can build the type of racecar that is meant to speed along pavement, tracks or other prepared surfaces. As with gas, nitro requires the heavy motor equipment that some people find cumbersome. However, they are perfect if you want to swap out your electric motor during a race or other event.

If you build your car the right way and avoid attaching the engine in permanently, you can switch whenever you feel a different one would be more appropriate. The average remote control enthusiast will accumulate quite a few different engines over the years, and will become familiar with which ones are best to use in a given situation. So don't worry too much about buying the wrong engine and being "stuck" with something that you didn't want. Just consider the pros and cons of each one, and compare them with your goals with your remote control car project. Think about how much speed you want, compared to how much agility or how much turning speed. If you have a local hobby store that stocks all of the different types of engines, then go in and ask to test drive a few of them to get a feel for the type of engine. You will be glad that you put so much thought into it.

#### **Competitions Offered To Radio Control Car Enthusiasts**

When you build a remote controlled car, you usually pour hundreds of hours, and even more dollars into making it a creation that you can be proud of. Well, after you have put so much effort into it, how much fun is it to just keep it all to yourself and never show off what you have worked so hard to complete? Some would say that it is a complete waste of effort. If you are building a radio controlled

car, you should plan on entering it in many different competitions. There are quite a few RC car competitions of many different types. Here I will go over some of the main kinds of competitions that you can get involved in. Each one requires a type of car that is specifically tailored to it. Sometimes you can swap a few parts out and have a car that is ready for a different competition, but more often than not it is a totally different type of car.

The first type of competition is the kind that most people would imagine; a simple race track. It's set up just like a NASCAR event. A large paved road is used as the track, and all of the cars are lined up in rows at the beginning. The number of laps can vary greatly, from sprint races to longer marathon races requiring dozens of laps. At these events, speed is the number one factor. Nobody will care if your car looks ridiculous if it is capable of speeds far higher than those of the competition. In these competitions, you will find the highest level of technical detail put into cars, with high-tech engines prevailing. Light, gas-powered cars with firm wheels are the best type of car for these competitions.

The second type of competition is definitely a fun one, and perhaps the most popular. It is the same as the first in the fact that it is a race. However, this race occurs on an off-road track. An off-road track will usually include lots of rough terrain, with steep hills and perhaps even ramps or obstacles. These tracks will really give the cars a beating. Most entrants will have remote control cars that look more like trucks, with huge shock absorbers. Many creative methods are used to keep cars in the running. Some even have wheels on both sides, in case the car flips over when it hits a bump. Many advanced driving techniques are required to stay in the running, and this is what makes off-road racing one of the most exciting sports.

Finally, there are exhibition competitions that are designed to consist of short segments. These segments show off one particular skill of your car – its agility, its speed, or its handling. You will be asked to accelerate down a straight road, just to see the maximum speed that your car can reach. You can also do slalom events, winding in and out of cones. The exact setup varies greatly from competition to competition, but you can always expect something along these lines.

Any competition involving remote control cars is most likely to be a fun time, even if you don't have what it takes to win. It's good just to go and have the company of your fellow radio control enthusiasts.

#### **Finding Components For Your Radio Controlled Hobby**

There are two approaches to building a radio powered model of a vehicle such as a boat, car, plane, or <a href="https://example.com/helicopter">helicopter</a>. The first is to buy a kit that contains everything that you need. If you buy this, all you need to do is snap everything together, or glue it into place. This is a great place to start for anyone who is interested in radio controlled hobbies. However, after you make this first project, you will probably want to move on to the more advanced method of construction. This involves finding very precise plans for a radio controlled project, and creating it from scratch. You will use wood, power tools, and glue to get your miniature vehicle looking as close to the real thing as possible.

Throughout the course of building a radio controlled project from scratch, you will almost certainly find yourself lacking certain items. Whether your exacto-knife breaks or you accidentally set your wood on fire, you should always have a vendor that you can fall back on for your supplies. There are

many different choices for people who you can buy components from, both local and long-distance. Usually hobbyists will end up finding certain people who they are comfortable buying from, but here you will find some of the main ones that you should investigate before you decide on a single one.

Local hobby stores will almost always have some form of whatever you want. If you just need a quick substitute for some item that you lost or broke, then craft stores will have what you need. You can find knives, some kinds of wood, paint, model glue, and various other small items. However, most of the time you won't be able to find products that are specifically geared towards radio controlled hobbies. You will have to decide for yourself whether you can make do, but more often than not you will want to hold off and buy specialized items that will allow for the ultimate in precision.

To find tools that are specifically used for radio controlled hobbies, you should look online for specialty stores. There are many web pages that sell (or even just point you towards) items that are perfect for the project that you are working on. Usually they will have user reviews so that you can see what kind of response the items get from radio controlled hobbyists who use the item for the same thing that you need it for. Before you buy from a certain site, you should search on the internet for experiences that people have had with it. How fast is their shipping? Do their customers ever receive broken items? These things are rarely problems, but you should still be sure before you order.

EBay has quite a few tools and parts that can be useful in the making of a radio controlled project. If you know exactly what you are looking for, you can usually find it for less than any other site. However, if you want to look around for something and find out about the best items to use, eBay is probably not the best choice since it doesn't provide user reviews and recommendations for the items. This is why it is a good idea to do your research on a site that is geared towards radio controlled hobbies, and then find the same items on eBay after you have decided which ones will work best for you.

If you buy high quality parts for your remote controlled project, you will probably not have to buy them again. If you buy cheap and low quality parts, they will break very soon and you will end up buying them over and over again (which will ultimately be more expensive than if you had bought the nice parts to begin with). So do the research, and find out about the best tools and parts to suit your needs.

#### **Getting Started With A Radio Controlled Model Hobby**

Radio controlled hobbies can be pretty costly. Toy grade models might be good for kids, but someone who is pursuing a radio controlled model hobby should invest in a hobby grade model.

The most common and preferred RC model is the car. But let this not limit your search and options. The concept and principle of the RC model is virtually the same, and all hobby grade models are simple and robust in design. Most require some practice to master the control. A car is a good place to start, and later you can invest in an airplane or other more advanced model. A person who has access to a free open ground (even a big football field is fine!) can safely invest in assembling a hobby grade RC airborne device since in the beginning stages, one requires lots of space to practice the control of the model.

There are dedicated hobby grade RC model makers who have hundreds of different models, and they will almost surely have one that suits your pocketbook and preference. It is a good idea to shop around at a few hobby grade RC model shops before investing in a model. This is because you might find a better model for your preferences, the cost might vary a little, and you will hopefully get to know more hobbyists that you can connect to by visiting these places.

The only limit to the amount that you can invest is solely based on your own capability. If you wish, you can invest in a low end model or you can go for the latest high end models with sophisticated circuits and controls. This is especially true with respect to the airborne models. But, wise investment is required and investment is NOT recommended if you are not a real radio controlled device enthusiast, since these hobby grade RC toys are costlier than the toy grade models available in retail shops. If you are questioning whether you can find time to play with the RC model, then the hobby grade toy is probably not for you.

In earlier times when internet was non-existent, face to face meeting was the only way the enthusiasts could contact each other. Even phone or snail mail was too clumsy to interact effectively. But the enthusiasts have always traveled long distances for the sake of their hobby just to meet one another. This is the indulgence in the hobby. But, the advent of internet has virtually reduced the world, your "arm's length away" being just "a-click-of-your-mouse-away". Real life meeting is not at all required, but still one can connect to another remote control hobby enthusiast from another end of the world. Real life groups are still the most effective means to get to pursue the hobby more effectively. Online groups can be of help to connect and to organize more extensive events, and to know about the various hobby related activities taking place.

Time is the most important factor when considering any hobby. A hobby is an activity that has grown more than just a "wish to try" activity, and you yearn to do it day in and day out. One might not always find the time, but the passion for the activity is what makes it worthwhile. If the thought of playing with remote controlled toys piques your interest, then it means you possibly have a flair for RC controlled models and you should give a try.

# Getting Started With Ham Radio Control As A Hobby:

Ham or amateur radio as a hobby involves some hard work in the form of getting licensed, and acquiring knowledge of the technical details. The hobby itself starts in the first step by one getting the ham device. Selection of a good ham radio is best done under the guidance of a person who knows about the radios well. More than that, one must know the local laws and rules with respect to the ham operation.

#### Getting to know your ham:

It is important to know about hams and, to know about your own ham as soon as you feel the urge to buy / assemble one. If you want to know about the ham, then again, internet, books and other hobbyists are all good places to start with. If you know no technical details of the electronics but find yourself fascinated by the idea, then it is time to learn a bit of jargon in the field.

So, if you do not know something, you should come out and seek answers either from those who might know or from resources like the library or the internet. One must spend some time and effort to learn

about the hobby that one wants to pursue. Just a wish is not a good enough reason to pursue a hobby. One needs more than just a wish to be able to pursue an activity as a hobby. So, recognition of the hobby and the right kind of activity that suits you is important.

Ham operation can be taxing and sometimes it can be tiring in spite of the modern equipment that does the scanning on its own. It is like the astrophysicist searching for some communications from aliens. If that idea grabs your attention, then this hobby will be to your liking since the activity is virtually the same, except for the helpful fact that we know there is someone who exists for sure, and one gets more than just "radio signals of unknown nature". You get interaction from real people, from out there in the world, who live in flesh and blood as you do.

Your choice of equipment depends on how involved you are, and what your budget is that you can afford to invest in a ham equipment. There are good stores out there that sell ham radio at a reasonable cost. Again, as usual, it's wise to chat with those who are ham radio operators, and also to visit and know the prices from various shops that sell ham radios to be able to select the best deal.

The cost of the radio equipment that can connect to longer distances will be higher than the ones that have a lesser range. Moreover, the recent advancements like digital voice transmission and such can be more costly than the simple Morse code wireless telegraphing model.

Getting licensed is the next hurtle. The amateur radio operator license exam does not require Morse code proficiency any more as it is has been allowed to be dropped as agreed in 2003 in the World Radiocommunication Conference in Geneva. The test will include the knowledge of ham etiquette, the communication laws that apply internationally as well as in your region and such. Once licensed, one is free to use the allotted bandwidths and is allowed to change or modify the equipment within the limits imposed by "spurious standards".

So...what are you waiting for? Go get a ham and get your license: get going!

#### **Getting Started with Radio Controlled Hobbies**

Remote controlled hobbies come in many different forms. No matter what kind of model you build, you are almost sure to have a great time controlling it and enjoying the work that you have done. The thought of putting the whole thing together seems very daunting to some people, and exciting to others. The key to having a great time with radio controlled hobbies is to embark on a project that fits with how much you want to work. You can buy remote controlled vehicles in varying states of completion, from completely together to "no two pieces are connected". Read on to find out about how to choose which one will be right for you.

Casual hobbyists or beginners will usually start with cars that are assembled at least most of the way. These usually only require a quick installation of a few batteries in order to get going. They can be fun to fly / drive around for a little bit, but usually they aren't a good choice if you want to get into more competitive areas such as races or exhibitions. Some people decide to begin their radio control hobby with easy toys like these, since they allow you to familiarize yourself with the layout of the vehicle of choice. While you become more familiar with them, you still don't have to pay very much money,

since those ones are often significantly cheaper. Just avoid buying a kids toy, and aim for something that is meant to be a more hobby grade version.

The next option is to buy model <u>kits</u> that come with all of the parts needed to put together the model. They are all perfectly measured, and all of the design has been done for you. All you have to do is pop the pieces out and glue them together. This is the most popular option, since it provides a lengthy challenge without getting too ridiculously complicated. These kits can be bought all over the place. They can be found in the average hobby store. If you look at the hobby stores and you aren't able to find the type of car that you want, then you should look at some online specialty shops to see if they have anything to offer that would better suit your needs.

The final, and by far the most difficult option is to build a remote control project entirely from raw materials. This requires immense planning and effort. To accomplish this, you first need to find plans for whatever you want to build. You will want to find very detailed diagrams and lists of what you need. Next you will buy all of the tools and parts from their corresponding stores, and get started! Building a remote control project from scratch requires very detailed measurements, so you will have to measure down to the very last millimeter before you cut the wood or plastic. Oftentimes your first project won't turn out good unless you are very skilled. However, you will gain more talent with every piece you add.

If you were still on the fence as to whether or not you would get started with radio controlled hobbies, hopefully you have made up your mind by now. It is a quite enjoyable hobby that can be enjoyed by people of all ages. As you can see, the amount of effort required to enjoy the hobby can vary widely. Young children can drive radio controlled cars around, and it only takes a minimal amount of money and effort. At the same time, the serious hobbyists can spend hundreds of dollars, and hours of time putting together cars that will beat all of the competition in looks, speed, and handling. So, if you want to get started with radio controlled hobbies, all you have to do is choose a project that fits with how much you want to commit.

#### **Introduction To Radio Controlled Helicopters**

Nobody is truly complete unless they have a hobby they are passionate about. Having a hobby will give you something to spend your time on, and something to enjoy when you have free time. If you are trying to find what hobby you can stick with, you should think about experimenting with radio controlled hobbies. You can build models of almost any vehicle, from boats to cars to planes to **helicopters**. Many hobbyists will get their start with helicopters. **Helicopters** are very complicated, but using the right kits you can get started without a problem. Once you fly your helicopter, you will feel that the entire experience was very rewarding. Flying the helicopter is a blast.

The most important part of flying a model helicopter is to be proficient in controlling it. You should understand exactly how to fly the helicopter, otherwise you run the risk of crashing it and ruining your entire investment, which is never good. Borrow a flight manual from someone who you know has a radio controlled helicopter. Take that chance to read through it and find out about all of the different terms, and the many knobs and levers that are required to maneuver the craft through the air. After you have read through it, take someone's helicopter out for a test flight to see if you have what it takes to control one of your own. If you crash it, be prepared to pay up!

After you have decided that you will be able to handle a helicopter, and that you even want a helicopter, you can start looking for your own kit. You can buy radio controlled <a href="helicopters">helicopters</a> that come completely assembled and ready to fly right out of the box. However, there is not much fun in this, and they will probably only allow for a few hours of entertainment. The real fun comes when you buy a model that has to be constructed from hundreds of small plastic pieces. It may be frustrating while you are in the middle of the process, but at the end when you have a great looking helicopter that flies smoothly, you will be glad you spent the time.

Your helicopter building experience doesn't have to be limited to the simple kits. There are many different options for extremely advanced helicopters that have different shapes and features. You can find these in specialty shops all over the internet, and even in some brick-and-mortar locations. You shouldn't buy a helicopter just because it looks interesting. Do research before you commit to building a particular one, so that you can find out what all it has to offer. You can find reviews and customer experiences all over the internet, on many different commerce sites. Find out about how well it flies, how easy it is to maneuver, the ease of assembly, and anything else that may matter.

So once you get everything built, what are you going to do with your radio controlled helicopter? It seems pretty boring to just take it out for a flight every weekend. If you're really passionate about it, you should look for ways that you can interact with others who are equally interested. This can be in the form of clubs where you just go flying every month or two, or large conventions with hundreds of remote control enthusiasts crowded in, talking and exchanging ideas. Getting involved like this will give you a chance not only to have an outlet for your passion, but also to find out more about it and become better at building and flying **helicopters**.

If the thought of flying a toy helicopter seems at all exciting to you, then look into getting a kit today. It is a great feeling to discover a new hobby that you are good at and enthusiastic about, so don't hold yourself back if you think it could be a positive addition to your life.

#### Making a Radio Controlled Boat

For some reason, being able to control a miniature boat as it skims over the water of a local lake is something that many people find very appealing. It doesn't matter whether you are a kid or an adult; remote controlled boats are universally fun. On top of that, nothing is more fun than undergoing a huge and daunting project, and eventually seeing the results come through. Therefore you should consider building a remote controlled boat on your own, out of materials that you can buy from any local craft or hobby store. If you are here, you have likely already considered this prospect. It is more than possible, and probably easier than you would think.

Since you have taken the more interesting route and decided to build your remote controlled boat rather than buy one pre-made, you will have quite a few more challenges facing you that you wouldn't have run into otherwise. However, all of the hard work that you put into your remote controlled boat will pay off in the end, and you will feel like you have really accomplished something when you take it out to a lake for a day and it is able to successfully navigate the treacherous waters. You will probably be frustrated along the way as your boat falls apart, or even sinks into the water never to be seen again. However, if you persevere you will be glad that you did.

Unless you have experience in the construction of boats, you will probably want to use plans that someone else has created. You can find plans for remote control boats all over the place – on the internet, in magazines, or in books. You may even use the plans for a full-sized boat, and make a scaled model of it. As long as you are confident that the motor and radio components will not interfere, this is a good route to take. Regardless of where you get your plan, you will need one that is utterly clear in every aspect. Even the slightest typo or misreading could result in your boat sinking, or spinning in circles struggling to stay afloat.

As you build the boat, you will need quite a few supplies, first, the wood is a very important part. If you are using custom plans, wood is probably the material you will be working with. You can find quantities of light wood such as balsa at your local hobby store. You should always get extra, since a wood that light is prone to snapping when you least expect it. The wood is held together using glue, and you will start with a hull-shaped structure then plate it with sheets of wood. After it is all done, you caulk the holes and cracks with some sort of putty, then spray it all with a sealant to make it waterproof. After that, you are free to paint it however you see fit.

The motor equipment on a radio controlled boat must have more attention paid to it than other remote controlled projects like cars or planes. If even one droplet of water gets into the electrical components, your entire project will be ruined, and you will have to buy new (possibly expensive) radio equipment. Waterproofing the motor equipment is fairly difficult, and you should always test it with no electricity involved before you actually go out on your maiden voyage. It is usually accomplished by having the motor extend an arm through a waterproof sealant that will prevent any water from getting in.

There are many parts to the process of creating a radio controlled boat, and each one needs to have close attention paid to it. As long as you can invest this time, you should have a great experience. You don't want the little sailors in your boat frantically tossing things overboard as they try to stay afloat, do you?

# **Modern Radio Hobbyists**

An amateur radio is called a Ham radio, and the operator is called as an amateur radio operator. They pursue the ham radio operation as a hobby, and it is a vastly popular hobby at that.

The origin of the word "ham" for an amateur radio operator is rather interesting. "Ham" was used to mean anybody who was NOT efficient or talented in the field. In the early days, the amateur operators had a notorious reputation for sending in garbled Morse code. So, these amateur operators were called by many names including "ham" as opposed to the professional wireless operators. But, over time, the name stuck up for the amateur radio operators and now it is no longer used in its initial derogatory way.

The hobby of amateur radio operators was also of public service during many times. In 1920 Amateur Police Radio was instituted to help "relay" information on crimes and thefts of vehicles and was very successful. Apart from using ham radio to connect to friends, families, they also connect to complete strangers. The ham operators have time and again been of great service during emergencies and disasters like earth quakes and other natural disasters in transmitting reliable real time information about the condition and for the speedy movement and dispersal of the relief measures. This is a great

public service since during these emergencies the only thing that works is the radio! The phone lines severed, other communication methods are ruled out and it is common for even the mobile networks to be clogged in traffic during these emergencies leaving hams as a great tool. There have been many documented evidence of the ham radio enthusiasts helping someone in trouble or helping to locate and nab a criminal.

Thus, the first radio hobby started out as amateur radio operation. It was restricted to few miles and must be relayed across. Now, all powerful and advanced radio equipments are still evolving and improving. So, one does not need to rely on relay anymore but can almost connect to half way across the world as opposed to the initial days.

The amateur radio has become very organized since the first clubs of 1909. Each has a unique identifiable code by which they are known. The first hobbyists relied on communication by making connections to as many radio operators who were as distant as possible, with their meager equipment. Usually they were constantly upgrading it. This was called Dxing, when one would try to connect to as many amateur radio operators as possible. The radio enthusiasts are on the look out for constant updates and most are proficient in the wireless technology. Even though they now get ready-made ham equipments, most are known to have a good knowledge of the working of the ham equipment as well as minor repairs and such.

In the day of the mobiles, internet, and blue-tooth, ham radio has its own place and reputation. After all, the disasters and emergencies have themselves to be a special place that the radio transmission can come in handy. There is also the family radio service, also known as the Walkie Talkie to operate within around about 2-3 miles. A modification of the same is used when the parents can fix a transmitter to a child's bag or pocket, and when the child walks out of the range, the parents are sent an alarm! As you can see, radio usage is not just limited to hobbies, but it spans across many different useful purposes.

#### **Radio Controlled Devices:**

Building, driving, and modifying radio-controlled car <u>kits</u> or other toys is a popular hobby among radio controlled enthusiasts. The radio controlled devices are a popular hobby, and are a key component in a sport that involves displaying the skill of the user in controlling the device efficiently.

Radio Controlled devices, or remote controlled devices as they are also called, are devices that are worked remotely from a distance. The first demonstration of the remote controlling activity was perhaps by Jagdish Chandra Bose when he ignited gun powder and struck a gong from a distance using electromagnetic radiation.

Tesla was the first to demonstrate a remotely controlled ship calling teleautomata, using transmitter and receiver showing how ships and mechanical gadgets can be controlled on a wireless principle in 1898. He also constructed a wireless tower which remained unfinished due to economic constraints. This showed the farsightedness of Tesla. He laid the foundations for the radio controlled devices that we have today. American inventor Armstrong remarked about Tesla: "The world will long have to wait for a mind equal to Tesla's, a mind of such creative possibilities and such wealth of imagination."

The remote controlled devices are commonly called RC devices - RC stands for Radio Controlled. In 1937 the first radio controlled airplane was flown by Dr. William Good and his twin brother Walter. Dr. William was a specialist in radios and Walter made aeromodels, and they combined them to create the RC plane. Radio control had also been employed in WWII. In the 1960s, the availability of transistors revolutionized the circuits and made them more compact and light.

# Principle of the modern RC toys:

In the mid to late 60's, a British company named Mardave, based in Leicester, began to produce the first commercially viable RC Cars. Their first cars were Nitro or gas powered cars sold in the local area in the early 70's. All such devices require a transmitter with controls, a throttle trigger and the wheels for turning. The receiver is placed in the body of the toy.

The models can be electric models as well as fuel models. The electric models work with electrical speed control, and the fuel control systems utilize the radio control mechanisms to regulate the fuel input and the such.

The radio controlled models can be toy grade or hobby grade. The toy grade devices are available in retail shops, and are available at a far lesser price. They are ready made assembled models, and usually utilize electric power. Hobby grade models are available at a greater cost but are more durable and serviceable. They usually require assembly, and most often run on gasoline or nitro.

These radio controlled cars are also used in races, and the cars or toys used in the races should confirm to the specifications. The RC devices can be varied, and include cars, boats, airplanes, <a href="helicopters">helicopters</a> and robotics. The small robots, cars and toys are usually for indoor play. Robotics combined with remote control technology is frequently seen in the international robotics contests held annually in Japan and other countries. Robotics are another hobby, which are even more interesting when combined with radio controlled or remote controlled toys.

The uses for radio control are limitless, and cars only scratch the surface. In reality, there are hundreds of different ways that you can enjoy radio controlled hobbies.

#### Radio Controlled Hobbies: A Technological History

You push a lever on your remote, and your remote control plane veers to the left. It almost seems like magic. Radio control is one of the most magical inventions of the modern era. It has a very long and intriguing history.

Linguistic research into the origins of the word radio reveals that it was from the prefix "radio-"meaning concerned with radiations. The word radio came into being before Hertz's discovering of electromagnetic radiations. Initially what was radio-telegraphy and radio-telephony over time came to be just radio. One of the first people to popularize the term was another pioneer in America in the field of wireless transmission: Dee Forest.

Tesla demonstrated wireless telegraphy in 1893 almost eight years after the discovery of the

electromagnetic waves by Hertz. Jagdish Chandra Bose in 1894 used electromagnetic waves to ignite gun powder and strike a gong in Calcutta (Now Kolkatta) in India. That possibly was the dawn of wireless/radio communications and its applications in science. Tesla in 1896 transmitted wireless signals for nearly 30 miles distance and patented his first four tuned circuit wireless system as being the first practical wireless transmission equipment. Marconi in 1899 spanned the English channel with this wireless transmission.

The dawn of the new century also was the beginning of a new era when Marconi performed the first trans-Atlantic radio signal in 12th December, 1901. The crystal sets which were patented by J.C. Bose came to be commonly used for detecting and receiving radio signals. There have been numerous disputes over who exactly was the first to conceive the idea or wireless transmission, Tesla or Marconi. In between somewhere there is one Popov who was also a pioneer in this field! Tesla is said to have run into financial troubles that greatly limited his run in the race. But nevertheless, Tesla seems to have been the first, but the controversy over this is not our concern now. Whoever it was, the truth stands is that it was one of the finest inventions in the history of science.

The first decade of the century saw many entrepreneurs and experimenters working with wireless radio but it was about at the near end of the first decade that definite hobby interests sparked. Radio signals were originally produced by spark transmitters, which were noisy and inefficient. Then the alternator-transmitter and then the arc-transmitter came into being.

The invention of vacuum-tude diodes and triodes revolutionized the radio transmission and receivers. The invention of triode amplifier generators made audio possible and started a new era of "audio radio". The vacuum tubes were the staple component for a long time until the invention of the transistor which made the equipment more precise, concise and efficiently mobile!

Then, AT&T used the vacuum tubes to transmit voices over phone lines and this lead to the experimenting of speeches over long distances for audience to hear over loudspeakers. Commercialization was thought about from the initial days but there was no way to restrict the transmission to specific paid users and broadcasting remained commercial-free. Then AT&T started the idea of advertising to finance the programming, and it is here to stay until this very date. There have been constant innovations in the field of radio broadcasting with the latest craze being internet radio. So, radio is NEVER out of date but it is forever coming in new forms.

#### Radio Controlled Toys - Hobby Grade Devices For Serious Hobbyists

Radio controlled (RC) toys can be toy grade or hobby grade.

The toy-grade Radio Controlled devices can be available at a cheap rate in almost every retail store. They are made of non-serviceable parts and are produced in bulk. The toys are not very robust in their speed or abilities. A radio controlled device of one toy cannot be used in another toy. They are not durable and are of "soft" material; these toys are mostly not able to take on the rugged terrain outdoors. They are available in "ready to use", "buy and play" models and need no assembly. The only thing that will be required is to open the battery case and put in the batteries, and then the toy is ready for use.

On the other hand, hobby grade radio controlled toys are made of durable material, and are custom made. They are mostly simple in their design. The design is simple and can be re-used / remodeled, and can be serviced. The radio controller and the parts can easily be used in another hobby grade toy. They are durable and more robust. They are not always available in ready-to-use state, though there are many hobby-grade RC stores that will deliver the toy in assembled state. Many hobbyists like to buy the toy in parts, and prefer to do the assembly themselves. The design, assembly, and driving of the radio controlled toy is in itself a hobby. The serious hobbyists also indulge in the RC sports that have their rules and specifications, not to mention the winnings which usually will be an enhancement to their current RC toy or another RC toy.

Every RC toy is available as a toy grade or a hobby grade toy nowadays. They can be airplanes, **helicopters**, boats, cars and robots.

Airplanes come in various sizes and shapes ranging from small flyers to gas turbine driven aerobatic models. The models can be tethered to a fixed pole via rope, or can be free flying models. They can be electrically propelled, or fuel driven models. The latest radio controlled models can reach up to 250mph. RC airborne toys require a high level of knowledge and control, and will need supervision of adults. They are not suitable for younger kids. They are relatively more expensive than the rest of the RC models. This is another reason that younger kids cannot use it safely, since a crash can result in damage that can be too costly.

The RC car is the one most common toy among radio controlled model hobbyists. The cars come in various sizes and shapes and can also be fuel driven or electrically powered. Just like the cars come in various sizes and shapes, so do the enthusiasts! RC cars are relatively safe compared to the airborne toys, and can be controlled even by a child. They can be "off-road" or "on-road" models, referring to the terrain on which they can drive on. The RC car races are common for the radio controlled model hobbyists.

<u>Helicopters</u>: Another airborne radio controlled model. It is different from the airplane in design and flight, and some say that it is much more interesting to fly. However, the same considerations that apply to helicopters apply here too.

A radio controlled boat was the first "toy" to be remote controlled. Tesla demonstrated the remote control boat model which he showed to the public as a device that "obeyed people's commands", where in reality it was him controlling the boat according to the people's commands.

Robotics: These are most popular in Japan, but the popularity is quickly catching up in other nations in the west too. Robotic hobbyists who design, control and model the robotics for various activities are common, and there are various competitions held regularly for them to create the best robot. Robotics however, are actually moving from radio controlled models to the latest artificial intelligence models and voice controlled models. But, radio controlled models of robots are still very popular as toys, as hobbies as well as a safety tool for remote handling of bombs and such.

#### **Radio Sports For Die-Hard Hobbyists**

Radiosport as a term is sometimes used as two separate words, or as a single word. It refers to the use of amateur radio equipment or the "ham", in short, as a part of playing some sort of game. It might be

group event or a single person event. It can involve other competitors in real time like a race or like a performance or achievement over a given time frame.

The contests are usually sponsored events, and can last anywhere between a few hours and 2 days, the world wide contests being two days usually. It can be local in a specific region, or may involve traveling a long distance. It can be a cumulative contest taking place over many weekends, or a sprint contest which lasts only a few hours. The rules are specific for the event and they include which stations (which regions) may participate and the like.

This is usually called radiosports. This can be any of the following.

# Dx-Contest:

This is when stations are to make two way contact with as many stations as possible over the longest distance possible. This is called the International DX-Contest today. Awards may be given for the following accomplishments. The "Worked All States Award" if the entrants make contact with someone from every state in the USA. The "Worked All continents Award" is given for making contact with someone from every continent. "Worked All Zones Award" is the same concept with time zones. Other awards include the DX Century Club award, and the UHF/VHF Century Club award.

Another event is an Amateur Radio Direction finding using radios. A specific number of transmitters needs to be found from a specific region in a map before reaching the end line. This relies on the athletic ability of the ham operator as well as some direction finding skill with radios.

Fox Oaring or Bunny hunting: This is similar to the previous contest but involves more short range equipment of the hams, and so it relies more on the direction finding skills of the contestant rather than the athletic ability. It's more technical in nature than the previous contest, and the radio can detect signals only 100 meters or so away, so the contestant must locate the transmitter hidden in an area of 200 meter radius.

A more severely restricted game than the Fox Oaring is the Radio orienting contest in compact areas. This requires very high technical skills.

There is another form of the amateur radio direction finding, or bunny hunting, that utilizes transportation with vehicles over long distances. The hams have to travel in their vehicles to the specific region and find the transmitter. Whoever finds the transmitter first and reaches the finish line is the winner. A variation is that the one to find a specific number of transmitters hidden in different places first is the winner. This relies on the traveling skill, orientation skill and the equipment efficiency too.

These events are called ARDF contests, which is short for Amateur Radio Direction Finding Contests. Contests or radiosports are just a part of the hobby activity. Entering contests is not a requirement, but there are many who pursue this almost obsessively, and collect winning certificates by the dozen in fact. On the other extreme are those that are equally passionate about being a ham, but do so purely for communication and satisfaction.

The significant thing about hams that needs to be mentioned here is that the hams can and do make regular contact with space stations. Many astronauts are licensed amateur radio operators and use their radios for educational purpose as well as an emergency backup.

So what was once spanning a small region locally in the beginning now has penetrated into space! What was once only Morse code based has now evolved into greater variations involving voice, digital transmission and so on. It is exciting to see how much radio transmission has changed in recent years.

# Remote Controlled Cars Make A Fun Hobby

If someone is interested in radio controlled hobbies, they almost always start with a car. Unlike a boat or a plane, cars usually won't be completely destroyed if they fail. It is very easy to make a basic radio controlled car, but as you do it you will discover that there is a huge amount of knowledge that can be gained. As you gain this knowledge, you can start to use advanced techniques to create cars that are stronger, faster, or more efficient than your previous ones. You can throw one together in a few minutes, or you can spend months creating an amazing car with superb speed and handling. The amount of effort you put into it is entirely up to you.

If you are just starting with radio controlled hobbies, it is probably wise to just buy a pre-made radio controlled car. You can buy these in toy shops almost anywhere. It may be slow and clumsy, and it may not satisfy your technological urges, but it is a good place to start. Play with it for a couple of days, and then take it apart. Look at the way the motors are connected to the wheels, and look at the general architecture of the car. After you understand it all, you will have much better luck when you start to build your own. You may even be able to use a few parts, such as the body of the car or the radio equipment. The motors will probably not be as strong as you would like.

After you have gained this essential basic understanding of the way that radio controlled cars work, you can start on whatever you want your next project to be. For most people, their goal is to build a model car from wood or plastic, install the electrical components, paint it, apply decals, and basically get it looking as good and performing as good as possible. Others may want to build an incredibly fast remote controlled car to show off to friends. No matter what you want to do, you will only be able to achieve it if you take it one step at a time and learn everything there is to know about remote controlled hobbies.

Many different resources can help you out along your way to becoming an expert in radio controlled hobbies. You will probably be spending a lot of time researching all of the different information that you need. You can find it all over the internet, including many different tutorials. For more specific questions, you can go to community groups and forums. This is where people from all over the world gather together on the internet to discuss their hobby, support each other, and brag about their latest accomplishments. Usually they are very welcoming to newcomers, especially if you are very clear and polite in asking your question.

Radio controlled cars don't have to be without competition. If you want to put your car up against those of other enthusiasts, you can find many different races and exhibitions around the world. Just do a quick internet search, and find out what the nearest option is. You might have to take a weekend trip, but it will be worth it to be around those who are as passionate as you about what you are doing. These meetings may include races, or just a good old convention to share tips and tricks with other radio hobbyists. You would be surprised at the large amount of information that you can learn from the people who go to these events.

Starting a new hobby may be daunting at first, since there is a wealth of information that you probably know nothing about. However, if you just get started with the basics and use all of your resources that are at your disposal, you will be able to succeed.

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# Resources For The Beginner Who Wants To Pursue Radio Controlled Hobbies

If electronic gadgets fascinate you and you want to do more than just use them, then you are a great candidate for pursuing a radio controlled hobby. If designing and assembling electronic devices is your fascination then you will be interested by RC models, whereas if you are more interested in wireless transmission and making communication contacts with people around the world, then you are more cut out to pursue hams.

These overlap many times, and most ham operators have a flair for radio controlled models, and vice versa. This is because they are attracted to anything that concerns radio waves. The best resource available to a beginner in radio controlled hobbys is the internet. It is a storehouse of information with valuable bits of knowledge on all aspects of the hobby. But interestingly, as opposed to amateur radio which is far easier to search for online, searching for RC model enthusiast groups is a bit tricky! If you try to use any search engine to search for remote controlled toys, you will find scores and scores of sites listed, most of which deal with sales of the toy grade or sometimes hobby grade models.

This does not mean that one wont find good resources on the subject online, just that one might have to change the keyword to find the best results. One other way is to use the online communities and forums which can be indispensable tools for connecting to people with similar interests. There are dozens of Yahoo!, MSN, AOL, and Google groups for this purpose. In addition to this, there are online communities, blogs and friends network sites. These will be good places to start. There are numerous groups and one must try to find one with people close to home as well as those that have activities related to the hobby. One word of caution always applies that one should never reveal personally identifiable details online unless you are confident in what you are doing.

The benefit of online search is that distance is not a factor, and there are virtually no other restrictions. You may also meet with more experienced hobbyists who can guide you pretty well in pursuing your hobby. Talking to experienced hobbyists can help you make a good decision, and can help you learn a lot. There is a lot available online and someone must know where and how to get to the useful information. You must try to collect information on the history of the hobby that you are pursuing, and the current issues and contemporary relevant things with regard to the hobby.

You should consider the amount of time you want to devote to your hobby. Time is an important aspect that one needs to consider before pursuing one's hobby in a serious manner. Without adequate time available on hand, one cannot pursue the hobby of amateur radio. RC hobbies involving toys and devices also requires some time.

Financial investment should also be considered. This is one important criteria and is the bridge that changes you from "I want to be a radio hobbyist" to "I am a radio hobbyist". Amateur radio sets are available in ready-to-use form. The costlier models usually have a longer range and better quality. On

the same grounds, the better and latest RC models will require a considerable investment.

Just use all of the resources at your disposal, and you are sure to find that radio controlled hobbies are very fun and rewarding.

# The Basics Of Radio Controlled Plane Flight

Radio controlled planes can rack up quite a bill when you consider all of the different things you have to buy in order to enjoy the hobby. You have to buy the plane model itself, as well as all the radio and motor equipment to keep it in the air. Then you have to buy gasoline, or pay for electricity to charge the battery. All in all it can be a very expensive venture. After you spend all of this money, nothing is worse than seeing your investment crash to the ground and erupt into a huge fireball (well, maybe not the fireball part; however, you can expect all of your components to be smashed beyond any working state). So when you fly your plane for the first time, you have to use extreme caution in making sure that you don't ruin your plane and consequently waste your money.

The most important part is to choose the day and the place carefully. On the ideal day, there are perfectly clear skies, with little to no wind. Hopefully it is also warm, but if it isn't that won't jeopardize your mission (unless you are shivering so much that you can't effectively control the plane). You should go to a place that offers some sort of good take-off point. Sidewalks and roads are perfect for this. You should also try to look for an area that is low on houses, trees, and preferably doesn't have many people around.

First you need to check all of your equipment. Even if you are a pro at handling radio controlled planes, nothing can save you from faulty equipment. Check and double-check everything before you send the plane up. Be sure to pay special attention to the landing gear. Make sure it is secure, and that it will be able to withstand the force of impact when the plane touches the ground after you are done flying. Also check all of the connections between the motor and the fuel supply or batteries. Test all of the radio equipment to make sure that every motion is interpreted by the plane. Hold it in your hand as you or a friend tries all of the levers and knobs.

Set your plane on some sort of surface that will act as a good runway. If you're in a park with sidewalks, find a large strip of sidewalk that will give your plane plenty of room to roll, gather speed, and take off. Just make sure there are no people walking in the way. Get up to speed, and if everything goes right you should lift smoothly in the air. Hopefully you will have read through the manual that came with your plane. Every radio controller is slightly different, so I can't give you detailed instructions on that aspect of the flight. You will have to read your manual to find out how to do it well.

After the flight you need to do yet another inspection of the equipment. If it was in good shape at the beginning of the flight and the flight went by without a hitch, it isn't likely to have some sort of new problem that has suddenly shown up. However, you should always investigate anyways, and save yourself some grief in the future. If you notice something wrong, you can take the plane directly home and take care of it, rather than wait until you notice it the next time you come out to fly.

Follow all of these procedures, along with any local laws or regulations that may affect your flying

session. Flying is a fun hobby, and if you are able to follow all of the guidelines that I have provided, as well as any other factors that may affect you personally, then you will find it to be a very enjoyable and worthy pastime.

# The Many Types Of Radio Controlled Hobbies

Radio controlled toys and projects have a huge following among hobbyists all across the globe. The concept is certainly a fun one – a miniature model of some real-life vehicle, fully functional and ready to get around. There are many different types of radio controlled hobbies that can be enjoyed. All it takes is basic knowledge of the radio equipment and the motors, and you can enjoy all of them in some way or another.

The most basic (and arguably the most fun) type of radio controlled hobby is the remote control car. Small model cars can be rigged in a way that will allow you to accelerate, steer, and brake them at will. There are numerous ways that you can accomplish this. The first is to just buy a remote controlled car and some good batteries. However, if you are interested in the technical aspect of it then this may seem uninteresting. Another option is to build a model or a kit from scratch, putting together all of the components of the car and installing the radio control system. Still another option is to take a pre-existing toy, and mount all of the radio components inside.

Toy cars aren't the only radio controlled hobby. Remote controlled boats are also very popular. It is fairly easy to convert a boat toy to be radio controlled. The biggest challenge faced by those trying to make a radio controlled boat is the issue of having a waterproof area for the engine and electrical equipment. Usually this is solved by placing the motor in the hull of the boat, and having the propeller emerge underwater through some sort of rubber, watertight seal. It is a good idea to buy this part of the boat pre-made, since a do-it-yourself, trial and error approach could lead to quite a few ruined engines before you get it right.

Radio planes are probably the most difficult project to undertake. Since a plane requires very detailed calculations and measurements in order to stay afloat, you will have to be attentive every step of the way. Makers of radio controlled airplanes will usually take one of two routes. The first is to buy kits that include cutout pieces of some sort of light wood that can be assembled using glue. After that is done, the radio and motor equipment are purchased and added in. The second method is to skip the kit, and find (or even make your own) plans for a model plane. After you have plans, you buy all of the necessary wood to make the plane from scratch.

Airplanes aren't the only radio controlled devices that take to the skies. Remote control <u>helicopters</u> are becoming more and more popular. They require around the same (perhaps a little less) detail as planes, and allow for a more interesting flying experience since they can hover in midair, and go backwards / forwards on command. The novelty of flying a toy helicopter is what attracts many people to building one, while planes usually attract those who enjoy the technical and mathematical aspects of getting the plane to leave the ground. Both are extremely rewarding, especially after hours and hours of labor.

These are some the many different ways that you can apply the intricacies of radio electronics to regular toys. While these make up the main areas that are focused on in this hobby, they certainly don't

confine you. If you have an idea for a radio controlled toy that is not a car, a boat, a plane, or a helicopter then by all means pursue it. By starting with the more basic toys, you can learn about the radio systems and the motors that power whatever it is that propels the vehicle forward. All it takes is this basic knowledge, and the hobby of radio controlled toys can span a vast number of possibilities.

# The Process Of Building A Radio Controlled Plane

People can spend hundreds and hundreds of hours on building a radio controlled plane. It is a hobby that is very pervasive throughout the world, and no matter where you can go you can find at least a few die-hard enthusiasts who will continue to devote their time to creating the best radio controlled plane possible. Some people get started on the project on a whim, without putting proper thought into the amount of effort that it will take to get finished. If you are thinking about making a radio controlled plane, you should know exactly what will be required of you. You may decide that it is too much work for too little payoff – or you may be passionate enough to stick with it and give it a try.

The first, and the longest, part of the process is to build the model. By itself, the model is no more than a bunch of wood, glue, and maybe a bit of metal in the shape of a plane. How much effort you spend on this will be dependent on what your goal is. Do you just want something that will get off the ground? If that's the case, the style won't matter too much to you. You can build a very basic box that will be able to lift off. However, most of the time hobbyists will create lifelike representations of existing airplanes. This involves creating an airframe out of a light material such as balsa wood, then covering up the sides with some kind of plastic. The dimensions are usually scale representations of whatever plane the model is based off of.

After the basic model is built, the builder will begin to bring the whole project together by installing the motor and radio components. They should always be easily removable, in case they need to be replaced. Get everything fit in to make sure you created the model correctly. Usually, you will buy all of the motors and radio transmitters in one set, and by following some quick instructions you can get it all pieced together. After you have installed it once to make sure, you should take it all out and finish the details of the model. Add decals, paint it, and do anything else that you have in mind. Once that is done with, put the motor equipment back in one last time.

Unless you have followed directions word for word down to every last detail, your plane probably won't be ready to fly right away. At this point you can take it out to a field or a park and attempt a takeoff, but you shouldn't hold your breath. You might have been lucky enough to get it right the first time, but you will probably need to make some tweaks. This is by far the most frustrating part of making a radio controlled plane. You will have to determine whether it is a problem with aerodynamics, or whether your radio equipment simply isn't working. If you are stuck on this step, it's a good idea to consult a radio controlled hobby expert to see if you can get a diagnosis.

The process definitely takes a lot of time and a lot of effort, but it is worth it in the end. When you can make a flawless takeoff and maneuver the plane through the air, you will be proud of the work that you have done. While you are toiling over building the model, getting everything to work right, and getting it to take off, just imagine that first moment when you are able to take off. Go out to the park one day, and see if you can catch another model plane enthusiast out flying his or her plane. Take a turn, and get

a taste for what is coming in the future. If you keep reminding yourself of that, you will be able to remain inspired.

# The Roots Of Radio Hobbyists

Radio hobbyists can play with their equipment all day without giving a thought to the origins of their hobby. Early radio hobbyists were part of something that was, at the time, new and fairly crazy.

After radio technology was stabilized, there was a steady growth of radio signaling in the fields of navigation of ships and for rescue operations. On the other hand, the amateur radio operators also started to dominate the air. The first documented and famous amateur wireless enthusiast was a then young man named Irving Vermilya born in 1890 when wireless transmission was being born. The young man since age 12 heard Marconi and built his own wireless transmission equipment and was often "heard" telegraphing with ships during that time. In 1911 he became a member of the Radio Club that had been formed. He got himself certified in 1912 when law mandated all wireless operators to be certified. In his own words,

This was pre-audio era, and communication was purely in Morse code. Irving then organized his own amateur group who had regular meetings monthly and would communicate daily wishing "GM" (good morning) and "GN" (good night), some of the first amateur jargon to be used. He also proceeds to describe in his series of articles published in QST magazine in 1917 as to how they managed to lay the telegraph lines and such and how they "drew juice" for the wireless operation from the electric lines instead of relying on batteries.

Meanwhile, apart from the "professionals" and "amateurs", with audio wireless signal transmission there was a new revolution setting in. A Dutch engineer in Hague was the first to make regular wireless transmission via radio. This could be considered the first regular radio broadcast. After this there was slow development until the commercial radio stations came into being.

The requirement to be certified killed the enthusiasm in many amateurs, and the number of amateurs dwindled. But then after WWI, there was a boom. The first radio clubs were formed in 1909 and this was the beginning of the radio hobbies which included radio as a part of the hobby activity.

During the WWI the amateur radio operators were asked to stop their activity and dismantle the equipment. Radio operators in uniform helped in military communications. They got back on the air again by November 1919 again. A similar lull in amateur radio happened during Second World War and got back on air by 1946. After lots of battles over the frequency range that the amateurs can tune into, the amateur radio is here to stay!

At present there are more than 170,000 ham operators which is possibly not the complete picture. It is still increasing. So, with Irving Vermilya was born the amateur radio operation, since he was the first radio hobbyist. After lots of developments, including the discovery of the transistor which greatly decreased the size of the radio equipment, the old ways still remains which included "waiting for someone to signal".

The rules to get oneself certified and licensed included a Morse code proficiency until the World Radiocommunication Conference in Geneva in 2003 that eliminated the need for Morse code proficiency from the licensure tests. Taking effect from February 23, 2007 the Morse code has been eliminated from the tests for amateur radio license tests.

# The Tools Needed For Radio Controlled Hobbyists

Building a radio controlled project requires a huge amount of time and detail when you are putting the pieces together, or even cutting the pieces out to be assembled. Most people who do it as a hobby will have many different tools that they use throughout the course of assembling a radio controlled project. If you want to build something for the first time, you will need some materials that will come in immensely handy throughout the process. Here I will name some of the main ones, but you will most likely need to find some more specific tools to fit your personal needs.

Of course, the first thing you need is the raw material that will be used to construct the project. Most radio controlled projects are made out of wood. If your plans don't call for a specific type, you will have to choose it yourself, which can be tough. Balsa wood is the most popular choice, especially for toy airplanes and **helicopters**. It is extremely light, while maintaining a good level of solidity. You can build an entire airplane frame out of it, and it will have a minimal amount of flex. IF you are building a larger model of an airplane or other vehicle, then balsa may be too soft, in which case you will want to look for other woods.

The radio and motor equipment is the 2nd most important part. If you are a really enthusiastic radio controlled hobbyist as well as an engineer of some sort, then you may consider making it all out of the various components. It is possible to buy all of the electric components of the radio and motor systems separately. However, if you do this you will have to deal with all of the electrical concepts and parts including transistors, resistors, and all those other things that make it so daunting. There is no shame in buying transmitters or motors pre-assembled and just gluing them wherever they need to go. It will definitely save you some time.

The first tool that should never leave the arsenal of a radio control enthusiast is a good old X-Acto Knife. Even if you are buying a kit that allows for easy assembly, you will still need the X-Acto knife to shave off any bumps or extra pieces of wood / plastic that are getting in the way. If you are building it entirely from scratch, the knife will be perfect for cutting outlines from thinner pieces of wood, cutting notches for the electrical equipment to keep steady, or just getting everything to the exact shape that you want it. You can buy them for just a few dollars at your local hobby store, or home improvement store.

Depending on the material that you are using to build your project, you will need some type of tack or glue to hold it together. There are many different choices for this area. You can use superglue, wood glue, or epoxy, and each one will hold fairly sturdy. Look up the type of wood or plastic that you are using, and see what type of tack is recommended to fasten it. If you are building a remote control boat or even a submarine, you will have to consider the matter of waterproofing it to avoid ruining the electrical components when you first put it in the water. This is usually accomplished through some sealing putty for cracks and a spray-on sealant to keep the wood from soaking.

At some point you will have to cut all of the wood into the segments that you require to piece together the final product. While it is possible with a handsaw, it is definitely not the best choice. A table saw works best for larger pieces, but for finer details you would be hard pressed to find a better tool than a Dremel Tool. They look like electric toothbrushes, and have quickly rotating heads that can grind away balsa wood in a matter of seconds. They allow for maximum accuracy, whether you are shaping a piece of wood or making holes for wiring.

# Where To Find Guidance on a Radio Controlled Project

Undergoing the entire complicated process of building a remote controlled model is a very daunting thing to do. If you are passionate about getting to know radio controlled hobbies better than anyone else, then you will definitely have to start somewhere. However, with no previous experience you will probably run into quite a few hitches as you work on your project. For example, if you are building a model airplane and you plan to install a motor in it, there are countless things that could get in your way. Maybe you don't understand how exactly to piece together the wings. Maybe your plane catches fire every time you try to run it. Maybe you don't even know where to start.

No matter what is getting in your way, there are many ways that you can get past it. A good start for any radio control project is to find plans or blueprints that you can follow for the entire length of the project. You can buy **kits** that include all of the pieces, or you can find plans on the internet and cut your own wood. It just depends on how much effort you want to put into the project. After you have the plan (which should include diagrams and exact measurements), you can begin to gather supplies. If you stick with everything that the plan says, you will be much less likely to hit a snag. As you work, you will learn skills required to make personal touches to the plan.

The best way to have constant support no matter what goes wrong is to make friends with some sort of expert in the field. Is your uncle's wife's cousin a fanatic for remote controlled hobbies? Get his phone number, call him up, and see if you can get some help. Most of the time people will be more than happy to share their knowledge with someone who is interested in similar things. You can also meet radio control gurus at conventions, races, or even supply shops. It is good to know someone locally, since you can meet wit them and show them whatever your problem is, and they can even glue a few pieces together, or do whatever else needs to be done.

For small inquiries that don't require hands-on assistance, you can use the internet. There are numerous online communities for radio controlled hobbies, which come in the form of message boards, mailing lists, or blogs. These can be found with a quick search engine keyword, and are usually home to numerous extremely intelligent people whose combined knowledge covers pretty much everything about radio controlled hobbies. If you ask a question of these communities, you will almost immediately receive multiple helpful responses. Using advanced technology like digital cameras and microphones, you can get an even more personal response.

Finally, you can get your information from a good, old-fashioned book. Libraries are full of so much knowledge, it is surprising that they go so unappreciated in today's culture. If you go to the library in search of books about radio controlled hobbies, you will find numerous resources that will help you out

greatly. Your query could range from the electronic aspect to the construction. In a similar vein, you can subscribe to magazines that regularly cover this sort of hobby, giving new plans, details, and advice for all subscribers.

If you use all of these different resources, you should have no problem building and enjoying the radio controlled hobby that you've always wanted. Embarking on the journey alone is definitely not advisable, since you will have to do many things that no normal human is faced with. From cutting the wood into precise chunks that will make up the different components to installing the electrical parts, each step requires close attention to detail. It is good to have backup in case you don't quite understand something.