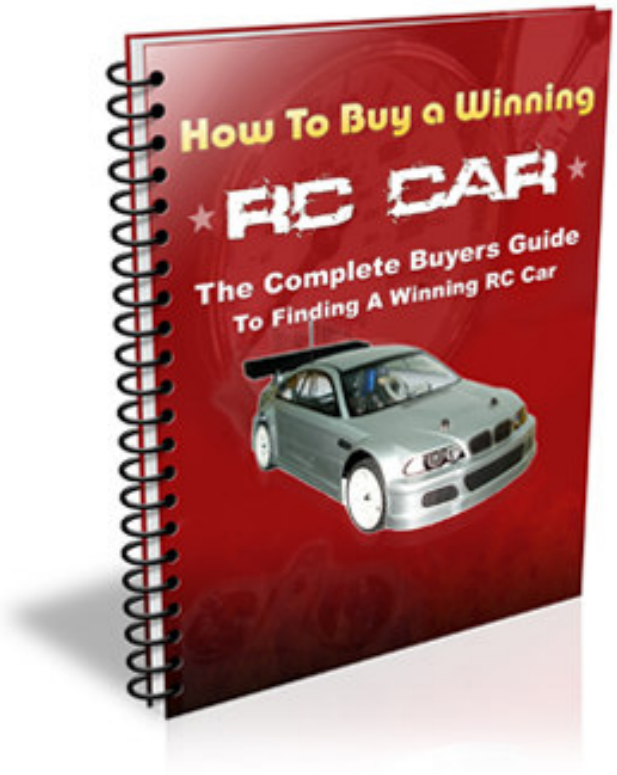

How To Buy a Winning RC Car

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Anatomy of an RC Car

Basic RC Car Components

Remote controlled car racing is a sport that has enjoyed popularity among car model enthusiasts of all ages for several decades, attracting both young and old. Malls featuring race tracks dedicated to RC racing were prevalent for a while, and now die hard hobbyists race each other in tracks of land set aside as racing strips for RCs.

Some RC enthusiasts prefer to buy pre assembled RC cars for their races, while others buy kits and pay the shops where they bought them to have them assembled professionally. The most personally rewarding thing for some RC hobbyists, however, is to purchase a kit and construct it themselves. For those of you who are new to the sport, here is a basic rundown on the major parts that make up an RC car.

Transmitter - this is a little handheld gadget used to control the car. It operates on a certain bandwidth and sends out radio signals to tell the car what to do (and hopefully keep it from crashing into stuff!). When buying a transmitter make sure that it's bandwidth doesn't run along the same wavelengths as any radio or TV stations in your neighborhood, or you might find your RC kissing pavement when your local station plays music that irritates your car.

Receiver - naturally, if the transmitter sends out commands, something has to receive it. That's what this little box is for. It picks up the signals from the transmitter and translates it into commands to the car itself, stuff like "Brakes! Noooow!". It's the brain of the RC, essentially.

Gearboxes - these translate the signals from the receiver into physical action that controls the steering, brakes, and motor of the car. Good gearboxes have to be sturdy, and have to have tough wiring to make sure they don't get disconnected from the receiver. They're your car's nervous system and muscles rolled into one.

Motor - the heart of any good full-scale car is the engine. Likewise, the motor is the heart of any RC. Pick a motor that's efficient, with a good power output for low energy or fuel consumption. Most of the rules that apply when picking a good engine also apply to picking a good motor for your RC.

Battery Pack/Fuel Source - depending on your RC's motor type, it will either be powered by a battery or by a nitro fuel type similar to real gasoline. The choice between the two becomes largely a matter of personal preference, because with proper tweaking, a battery operated motor can churn out power comparable to a nitro engine. If you're going with stock motors though, nitro engines put out more juice to make your car go go go! They're a bit tougher to maintain though. Anatomically speaking, this is your car's stomach.

Chassis and frame - like a real car, this is the shell that defines your RC's looks, as well as the framework that holds all the little parts of the car together. Fiberglass chassis are tough and light, making them ideal for racing, though for those of you who want more toughness metal composite chassis are also available for some RCs. On a human, this would be the bones and skin.

History of the RC Car Racing Hobby

RC Car Racing Through History

It all began in the sixties. Remote controlled planes were a growing fad back then, with gasoline driven motors and meter-length helicopters and airplanes that ruled the skies for hobbyists (and occasionally made spectacular fireballs when incompetent pilots handled them, hehehe!) The one day, in the late 60's closing in on the 1970s, some companies got the bright idea of installing those motors on 1/8 scale cars. These vintage pieces were scaled down versions of their real life counterparts, with authentic modeling across the board.

The seventies saw the advent of RC car racing as a general hobby though, with smaller and more efficient scaled motors allowing gas operated cars made with lightweight aluminum to run at 30-40 miles per hour on tracks, topping out as fast a normal full scale car on cruising speed. Later, gasoline was replaced with nitro, which is a blend of nitrogen and methanol, a fuel that has been further refined and remains in use today in some RC racing cars. The mid seventies saw the true birth of what would, in the next decade, become a monster that defined RC racing. Namely, household name company Tamiya came up with the first prototype electric engines for racing RCs. While not advanced at this point, they offered hobbyists a cheaper option for refueling due to the use of rechargeable power packs.

The eighties saw the highest point ever in RC car racing. Refined electric motors and composite plastic technology allowed electric motor driven RC cars to achieve speeds unmatched at the time by their nitro driven cousins. Another major contributor to the boom of RC racing in this decade was the development of off-road RC buggies. Whereas before, RC cars were restricted to flat surface use, these off-road

speed demons had light but tough frames, sturdy electric motors, and oversized tires that allowed them to run at incredible speeds over most types of terrain. Sending RC buggies flying over dirt ramps and pulling wheelies on dirt tracks and sand made thousands of model enthusiasts fall instantly in love with these adorable little dune buggy speed demons.

The eighties also saw an explosion of world tournaments of all varieties, from off-road buggy tournaments, to ones divided between gas or electric driven RCs, to daredevil tournaments with ramps and even hoops and slanted tracks, to impromptu neighborhood competitions that sent dozens of little maniacal wheeled machines running through alleyways and downtown side streets, sending the rats, cats and stray mutts (and the occasional unsuspecting pedestrian) scrambling for cover. During this time, new heights in technology allowed electric driven RCs to clock in speeds of almost 60 mph, leaving audiences stunned that something so small could move so fast.

The nineties saw the comeback of liquid fuel engines. Nitro refinements and lightened metal alloys allowed professional nitro racers to hit speeds in excess of 70 mph, and it wasn't long before electric engines were struggling to catch up. Modifications later in the decade allowed electric engines to do so, but it required considerably more modifications to make an electric motor driven RC match the speeds of a tuned nitro RC. Speed advancements aside, perhaps the most noteworthy other contribution of the nineties to RC racing was the development of miniature monster truck RCs. A lot of truck lovers immediately saw the appeal of a shrunken down version of a truck that, full sized, was just one step short of a Sherman tank. A new category for RC racing was born from this.

The new millennium to the present day sees further refinements to RC racing technology. So far nothing new has cropped up in the present decade to shake the foundations of RC racing, but with the speed at which technology grows and the continued devotion of it's hobbyists, it's only a matter of time before someone comes up with another new twist to this game that will send RC racers running for their tool kits.

Introduction: Buying a Winner RC Car for Beginners

A Newbie's Guide to Buying a Winner RC

Okay, so you want to race remote controlled cars? Cool! Welcome to the world of RC racing, good to have you aboard! You'll find that this hobby can offer almost all the rush of racing professionally in real cars, without the risk of major bodily dismemberment if you splash on the track. Plus, it also gives you a chance to twirl your hobbyist tools around if you're into making models, since you can build your own RCs from scratch (later, when you get more experience, at least!) and customize your devilish little engines of speed with a many accessories as you can safely tack on without compromising performance. Or even compromising it just a weeee bit, if it'll make your baby look loads better than everyone else's RCs...

Okay, gushing moment over, let's get into the gritty details of what you need to know to pick out a winner from the shops. The stuff I'll be recommending here will be for newbies to the sport, so you can relax and not worry about info overload.

Fist off, you have to know the specs of the RC you're buying. Ask the shop owner if it's made as a kid's toy (avoid those!), for casual racing, or for pro racing. I recommend getting a casual-racing spec RC first, but make sure that the model you buy has support parts and options from it's manufacturer that will allow you to mod up later.

Next, choose the engine (uhm, I mean motor!) type. RCs run either with electric motors powered by a rechargeable battery or on mini-

engines fueled by a milder form of gasoline, referred to as nitro racing cars. Both see active use in the tournament circuits, though nitro RCs have an edge over battery-operated ones in terms of power unless the battery-op has enough mods on it. If getting a battery operated RC, be prepared to spend more on mods later. If buying a nitro RC, be prepared to spend more on the RC initially, as well as more money on the fuel itself over time every time you race.

Next, keep in mind that there are ready-made RC kits out there, and do-it-yourself kits you can put together yourself. Unless you're really good with your hands, getting a pre-made kit to start with is a safer bet. Over time though, you'll be better off with a car that you assemble yourself, since you can tweak it to your specs. If you want something done right...

Also decide what type of remote control unit you'll be most comfortable with. The two most common types of RC controls are old-fashioned twin-joystick type ones, one stick used to control acceleration and braking, the other for steering. The other type of remote control is a pistol-grip type, with a "trigger" for adjusting speed and braking, and a wheel set on top of the pistol-grip for steering. Choose something your hands will be comfortable with. Also make sure that the frequency of the antenna on your RC isn't in the same range as radio stations in your neighborhood, as these can sometimes interfere with your control's signals.

Lastly, do your research before making your purchase. Read racing magazines, and surf the internet and check out RC racer forums for veteran racer's opinions on what are good purchases for beginners, and ask for their advice. Once you set your eye on a prospective model to buy, don't pick it up yet. Check out the manufacturer's website and make sure that you get something from a reputable dealer, preferably one that specializes in post-purchase customer support and offers racing upgrades to the model of RC you're eyeing.

Buying a Toy RC or a Hobby Level Car

RC Buying Tips

For those of you who are just getting into the sport of remote control (RC for short) car racing, selecting a good model of RC to buy can be pretty staggering. The sport has been around for decades, and shows no signs of slacking off in popularity among people of all ages. Because of this, there are literally thousands of different models of RC available, from regular mock-ups of real life cars, to concept models designed especially for RC racing, to dirt track all-terrain racers, and even military vehicles and miniature monster trucks. To keep the confusion down, here are a few questions to ask yourself to help you get through the process of deciding on a good model of RC to purchase.

Motor Type - first off, most RC cars these days are separated largely into two categories: electric motor driven, or nitro motor driven. Electric motors run on rechargeable batteries and are relatively easy to maintain, though they're a bit lacking in terms of sturdiness compare to nitro motors and a bit lacking in power unless properly modified. Nitro engines, on the other hand, run on a combustible liquid fuel source comparable to a mild form of gasoline. Nitro mini-engines offer more power and are made tougher than electric motors for an RC, but they are harder to maintain and repair when parts DO break down.

Model Type - the type of vehicle the RC is patterned after is a fun choice to make. Aside from RCs which are basically scaled down versions of regular cars, other popular choices among RC racing

enthusiasts are dune buggies meant for dirt tracks and monster trucks. Dune buggy RC racing is especially fun because those little suckers go real fast over most types of terrain, and are built to fly into stuff and not get damaged (much). Dune buggy racers are evil knievels at heart, so I've noticed. Monster truck RCs on the other hand appeal to those who, like me, prefer their vehicles large and in charge. It's adorable seeing a scaled down version of something that you know ought to be large enough to use other vehicles as an alternate highway bypass...

Chassis type - most chassis are either made of fiberglass, composite plastics, or light metals like aluminum. Choosing a chassis type should largely be a matter of intention. Collectors who want their RC cars to last a long time and maintain good resale value should pick metal frames, as these are extremely sturdy, not to mention possessing the same appeal for collectors as die-cast metal toys in general have over their modern mass-produced plastic counterparts. For racing, however, composite plastics and fiberglass are made to offer a high power to weight ratio, making RC cars fly with a powerful enough motor. Casual buyers who just want to race for fun would be equally well of with plastics instead of metal, unless you feel that your driving style will be running your RC into posts, mailboxes, and walls all the time, in which case you may want to consider metal frames to keep your RC alive...

Normal or Racing Kit - the last consideration to make when buying an RC is to consider if you'll just be playing against your other buddies for fun, or taking your RC to the local track and competing in tournaments eventually. If the former, just get a stock kit and learn the ropes slowly. If the latter, pick an RC that's designed for low-end racing but be sure to ask the shop owner if that particular model of RC has options available for later upgrades you may want to put in to tweak it beyond the display case specs.

Know the Parts of an RC Car before Buying

Buyer's Guide for RC Cars: Parts Tips

It is essential for anyone buying an RC to know it's components. Knowing the parts that make up an RC car help you to make an informed decision on whether you'll be getting your money's worth or not, and is also important later on, in case you may decide to upgrade parts of your RC to improve it's performance. Here are the major parts of an RC car, and more importantly, the things to watch out for in each one.

Remote Controller - this is the transmitter that you hold in your hand. It allows you to control the actions of the RC, telling it to stop, go, and which way to turn. When buying a remote control, make sure that it's comfortable. Don't pick one with tons of features but which will sit clunkily in you grip. Also, look for a controller that allows for variable speed and wheel angle steering adjustment. Without the ability to adjust the extent of speed or steering, your car's only options will be turning full left/right, and go full speed/stop now!

Receiver and Gearboxes - the receiver gets the signals from the transmitter and conducts them to the gearboxes, which allow the motor and the wheels to operate. Find ones with high degrees of sensitivity. A receiver that picks up signals easily is determined on the

specs sheet by the maximum operating range of the car. The farther the operating range, the better. The gearboxes on the other hand have to be capable of making minute adjustments to steering. Test the RC before buying it to make sure that the wheels get angled properly by the gearboxes when you attempt to steer.

Motor - the heart of the RC. No matter the type, whether electric or nitro driven, look at the power output of the motor and compare it to the energy or fuel usage of the motor. Go for fuel or battery efficiency as a first pick, while you're still learning the ropes, and modify it for power as you gain more experience in RC operation.

Undercarriage - like a real sized car, the engine, receiver, and gearboxes are all mounted on a frame. Find a sturdy one, as the undercarriage protects the valuable and sensitive components of the RC car. Composite plastics have to be high impact, preferable, to make sure that your RC can survive punishing crashes. Replacing a cracked undercarriage is easy, but replacing the internal parts can be much more expensive.

Wheels and Shocks - yes, these are, just like a real car, very important. Most of the considerations that apply to picking these for a real car apply. Get tires with good road grip, and shocks that have a medium level of bounce - too soft, and your internal components get rattled from bouncing too much. Too hard, and your RC will tend to jump far too high over even small road bumps, incidentally jarring your RC and causing wear and tear to the parts of the chassis supporting the shocks.

Chassis - the shell that forms the main appearance of the car. This is mostly a cosmetic choice when picking a good one. Just find one that, like the undercarriage, is light but tough, so that your RC car's internals are protected. Toughness and lightness aside, everything else regarding the chassis is just a matter of personal artistic taste.

Electric RC Cars

The Advantages of an Electric RC Car

Electric RC cars are remote controlled racing toys that appeal to people of all ages. Since it's advent in the 1970s, these little speed demons have caught the hearts of millions of people worldwide. RC cars are actually split into two major types depending on the motor. Electric driven RCs use a rechargeable battery to power their motors, while their cousins the nitro RC cars run on a nitrogen fuel mix that makes them closer approximations to real miniaturized gas driven vehicles.

Electric motor RCs are suitable for racers of every skill level, while nitro driven ones are only suitable for professionals. To begin with, electric RCs can be easily bought off the shelf or made from easy to assemble kits. These introductory level RCs run at top speeds of 20-25 miles an hour, which is a good running speed for beginners until they can get their skills honed. Later on, modifications can be made to an electric RC's motor, servos, gearbox, and power supply, allowing it to

run up to 40 to 50 miles an hour for those who feel a major need for speed and want to compete in race tournaments.

One major advantage of electric motors over nitro engines is that they run very quietly compared to gas motors. Also, because of the lack of emissions, electric motors can be operated indoors safely, which is not the case with nitro RCs.

Maintenance is also much easier for electric motors. Parts are cheap and easy to replace, and nowhere near as taxing even if you want to do the installations yourself. This same ease of installation also applies to modifications to make the car go faster and bring it up to racing spec. However, it should be mentioned that electric cars don't go as fast as nitro driven ones, and their parts, being mostly composite plastics and fiberglass, aren't as sturdy either. Still, it's offset by the ease of replacing old, worn, or damaged parts for electrics.

Bringing a car up to speeds that will match an equivalent gas driven car, however, is a much more expensive proposition for advanced RC racers. While in the 1980s electric motors generated power to weight ratios that far surpassed nitro RCs, metallurgical advancements in the 1990s and refined fuel types for nitro RCs gave them the overall edge in speed on the race tracks in cross-category competitions. Stock or with little modification, a nitro RC will outpace a stock or equivalently modified electric RC.

Still, for sheer fun factor, electric RCs can't be beaten by their nitro cousins. Electric motors allow model makers to come up with crazy designs that can withstand harsher angles and flying leaps off ramps with far more ease than nitro RCs. Take for instance the classic and still much loved dune buggy design. Electric motors allow these sleek, bullet shaped model cars to take their oversized, spiky tires and run on dirt tracks that would clog the engines of a nitro RC. Not to mention running almost parallel to the ground on an angled oval track or flying off a ramp and, with enough juice in the motor and battery, running a 360 on a hoop...

Lastly and naturally, of course, one of the biggest bonuses for electric RCs is their fuel. Rechargeable battery packs are easily portable, and don't require periodic trips to the local hobby shop to buy nitro fuel. Going to a race, keeping spare charged battery packs in a bag is far more convenient than lugging around a nitro reloading tank.

Nitro RC Cars

Nitro To Goooooo!

Nitro operated RC cars are for the big boys and girls of RC racing out there. While electric driven RC cars are much easier to maintain and are popular among hobbyists, serious racers will ultimately want to switch to nitro RCs for racing. These cars are not hobby toys, they are almost exact miniaturized replicas of the actual full sized vehicles they're based on.

What nitro cars have to offer is sheer, unadulterated power and speed. Even stock, a gas driven racer will outstrip stock electrics on any flat race track. Furthermore, while electrics can match the top-end speed of a nitro racer given enough (but expensive!) modifications, nitro

racers will still maintain the edge initially in a race because nitro racers offer better acceleration than electric racers.

Then there's the toughness factor. Electric racers are mostly made from plastic parts, but the nature of nitro engines requires the use of light but sturdy metals like aircraft aluminum in their construction. Combined with light metal frames and chassis, a nitro RC can withstand impact shock better than an electric RC, whose components are actually made for easy replacement instead of focusing on sturdiness.

Nitro RC cars have their disadvantages too, of course. The most obvious ones would be budgetary constraints. Stock nitro racers are more expensive than stock electric ones, and of course the fuel itself is literally consumed per run, as opposed to electric motor batteries which just need to be plugged into any power outlet to recharge.

Also, nitro motors are miniature versions of real vehicle gasoline engines, which means that they are much noisier than electrics. This noise, combined with fuel emissions, means that nitro racers, even small ones, can't be used indoors, unlike electric buggies that can be driven around the living room for fun. Still, this isn't so much of a disadvantage when you consider that nitro racers are really meant for serious competition and not just casual play.

There are three general types of nitro RC racer to choose from. Each have their own categories in pro RC racing. The first of these is the touring type nitros. These RCs are modeled after real civilian cars, from sedans to sports cars. Touring races are popular because it allows car enthusiasts to wheel around smaller versions of the cars they own - or wish they owned...

The second type of category is 4-wheel offroad nitro RC racing. This is further subdivided into dune buggy and monster truck categories. Dune buggy nitros focus on speed, with sleek chassis and dirt-shielded frames, with spiked oversized tires providing excellent agility and handling on dirt tracks. Monster truck nitro RCs, on the other hand, are decently fast, but huge for an RC. Like their real life counterparts, nitro monster trucks are made to roll over anything in their path, and their races are as much tests of ruggedness as of speed.

Lastly, there are flat track formula racers. These are patterned after professional racing cars, and are built extremely low and fast, meant for operation only on flat racing tracks. These nitro racers, above all,

break the 60 to 80 mph threshold, running at speeds reserved for full sized automobiles.

Electric Versus Nitro RC Cars

Pros And Cons of Nitro and Electric RC Cars

RC racing is a hobby that has been around for several decades, and while it no longer enjoys the almost fanatical popularity it did back in the eighties, the fact that world races are still being held for RCs and that people still continue to collect RCs in steady numbers, means that this hobby is definitely anything but a flash in the pan. RC racing is here to stay.

RC races are generally categorized into two types, depending on the

motor used in the RC. Classic RCs are built with miniature engines that run on nitro, a solution similar to a milder form of gasoline. The most widespread type of RC however is the electric RC, which utilizes an electric motor powered by a rechargeable battery. Both types of RCs have their own fan followings, and they have their own strong and weak points for hobbyists.

Cost wise, electric motor driven RCs are cheaper initially than nitro RCs. Stock electric RCs cost less than stock versions of their nitro counterparts. Also, in terms of fuel consumption, electric RCs are more economical because they simply have to be recharged after a run, whereas nitro RCs require fuel to be purchased. Nitro engines are also more expensive to maintain, because they are literally small car engines.

However, in terms of performance, stock or lightly modified nitro cars have much better handling, acceleration, speed, and overall performance than their electric cousins. This is where the cost factor gets amplified for electric motor RCs. To bring an electric RC up to speeds which can match a nitro RC, heavy and expensive modifications are required. Even then, with equal levels of modification, an electric RC may be able to match the top end speed of a nitro racer, but it's acceleration and handling will still be a bit behind that of the nitro.

Parts are another consideration. Electric RC parts are fairly common, easy to find, and cheap to replace (except for the high end racing modification kits, of course). Nitro RC cars feature a lot more metal in their construction, making them more expensive to find in a shop and to replace or repair when they break down. However, because they're metal as opposed to the composite plastics used in electric RCs, nitro parts are also much tougher to begin with, decreasing the frequency of parts maintenance.

On a non-performance angle, however, another reason for the electric RCs popularity is the quiet of it's motor when operating. Electric motors make very little noise, but nitro motors are much louder. Due to this, and the fact that nitro motors cause gas emissions, electric RCs can be easily operated indoors with very little disturbance or hazard. Nitros are meant purely for outdoor use.

Both types of RCs are fun to use, though given the differences between the two types it's recommended by a lot of people that beginners and casual enthusiasts go with electric RC racers, while nitro RCs are definitely something to be used only by professional RC

racers.

Features of a Good RC Car Joystick

Stuff You Wanna Look For in a RC Controller

Alright fine, you've got a finely tuned RC car that can go faster than a bunny with a burned butt, and turn corners tighter than your mother in law's... um... heart. But you still wind up losing races against your friends, or even (oh darned!) those official competitions you enter

against other racers in town. Not looking very good? Hmmm, ever thought that maybe the problem lies in your control stick?

Some people actually seem to forget that the remote control that operates an RC car is every bit as important as all the rest of the RC. More so, actually, since the control stick is pretty much the tool you use to tell the car what to do. A faulty or deficient remote control can lead to problems like, when you tell the car to turn left it may actually be getting a signal to hit the brakes and pull a 180... So with that in mind, make sure that your remote control has all of the following features so that you can tell your RC what to do and make sure it gets DONE.

Broadcast Considerations - okay, since most remote controls are wireless these days, these are the things to look for. One, make sure that the transmitter in your control and the receiver in your RC both run on a frequency that doesn't coincide with other transmitters in your area like CB radios, TV and radio stations, etc. as these will mess things up. Also, check the specs for the absolute range of the transmitter. High powered transmitters with long ranges mean less delay time between inputting a command and the receiver's getting the message.

Steering Degrees - the crudest, but unfortunately most widespread types of controllers, only transmit a signal to go left or right. Full left or right. Your controller should be able to accurately adjust the attack angle of the tires to steer at a proper degree depending on the rate at which you tilt the joystick or turn the knob. Without fine-tuning adjustment in this area, you'll always be steering out of control.

Acceleration Selection - like the steering problem, some remotes have only two settings: stop, and go. Find a car and remote that allows switching speeds and modulating speed depending on the tilt degree of the stick or, in the case of pistol grip controllers, the pressure on the trigger.

2/4 wheel Drive Control - some RC cars have 4 wheel drive options. If the option is available, try to find one that also offers switching between two and four wheel drive. Remember to check if the 2 wheel drive option is front wheel or rear wheel drive, as this also makes a difference in racing.

Ergonomic Comfort - lastly, make sure that the control, be it pistol grip or twin joystick type, sits comfortably in your hand. If it feels too bulky

or too small, or out of proportion for your fingers, don't use it. Get a control that feels comfortable and relaxing, and with controls that you can easily reach without having to maneuver your fingers or change your grip too much.

What to look for in a good RC Car Kit

Tips for Buying Your First RC Car Kit

Some people who buy an RC racing car buy them off the shelf, picking up pre-constructed cars known to RC racers as RTR, or Ready To Run, cars. However, a lot of RC racers prefer to pick up kits that they build themselves. There are a lot of reasons for this appeal, not the least of which is the joy of tinkering around with an RC and knowing that you built it.

This approach appeals the most to model collectors who usually engage in other building hobbies like making model aircraft, tanks, ships or garage kit statues. Taking this point aside, however the biggest advantage to making your own RC racing car from a kit is that you can easily troubleshoot problems since you are more familiar with the workings of your RC than a person who just bought an RTR off the shelf.

When picking up a kit, make sure that it is from a reliable company that specializes in customer support and that has a reputation for putting out good products. Before making a purchase, check out RC racer forums and get the opinions of experienced RC collectors and racers for what would be a good buy for a beginner.

When at the shop selecting a purchase, don't go for appearance's sake alone. Performance, naturally, is extremely important for an RC car. However, since you'll be learning the ropes of putting an RC car together, the most important thing is to check out the instruction manual. For the sake of your sanity, don't pick up an RC, no matter how good it's specs, if the instruction manual reads like something from a NASA computer printout. Get something simple and easy to understand.

Prepare your tools beforehand, too. Small pliers, nippers for cutting away excess, and screwdrivers do the job nicely. Check the manual, again, to make sure that the RC you're buying requires a minimum use of tools is possible in case you're not very adept with your hands. Avoid any kits that require the use of tools you're not familiar with, as this may lead to your wrecking the RC and ruining your enjoyment of putting it together.

Check the warranty, too. A good warranty not only involves the duration of the warranty, but it's coverage. Warranties that offer part replacement in case of damage or even free service for repair jobs are a huge bonus that you should keep an eye out for.

As to the actual car itself, it's definitely recommended that beginners get an electric motor driven RC car. While nitro cars are also available for RC racing that run on a mild form of gasoline, these RC cars feature mini engines that are too complicated to put together when you're just starting out.

Lastly, look into the RC's upgradeability. Ask the store owner for a look a lineup of support products they may have for that particular model of RC, in the future event that you'll want to pimp your ride and make it faster, more maneuverable, give it better shocks, braking, and handling. After all, this is just the beginning! Once you get the hang of making and racing your own RCs, you'll find yourself wanting to add mods and tweak it as far as you can push the threshold. To kick your neighbors' RC's butts on the track, of course!

Build from a car kit or run a ready-to-run RC car?

RC Cars: Going RTR or Make Your Own Kit?

RC car racing is a fun hobby that's been around a while. The eighties saw the biggest boom in RC racing, but despite the initial craze dying down, unlike some fads from that chaotic and eventful decade, RC racing is still around and very much alive today. You've gotta love sending a little wheeled machine skittering around a room, street, or racetrack and watching it pull turns and do wheelies!

Most newbie enthusiasts to this hobby get pretty overwhelmed when they first enter an RC shop. They see dozens of different models of RC race cars around, ranging from realistic renderings of full sized cars, to fanciful dirt buggies with wheels and chassis that would look out of place on a real car but look adorable on something the size of a large house cat. Then, aside from the different models to choose from, they find that these cars come in pre constructed sets that are good to run off the shelf as well as in kits that need to be put together personally after purchase.

The question that arises at this point is, which is better, to buy a pre-made RC car, or to take a kit home and do it yourself? There are a few simple tings to think about when making this crucial initial decision.

First off, there's the question of the buyer's intent in buying an RC. Is it merely a leisure thing, for casually playing around the house? Or does the buyer have a deeper intent like collecting RCs or even actually entering RC racing competitions? If casual play is all the RC is ever going to see, a pre-made kit (known among RCers as RTRs, for Ready To Run) RC is good enough. Treating the RC like a toy, which it is at it's core after all, buying a kit and going through the process of putting it together can be a hassle for some.

Unless, of course, the buyer happens to be a RC enthusiast by nature. For people who like to tinker with tools and putting together model aircraft, garage kits, and the like, buying a pre-made kit would spoil part of the fun of owning an RC car. Even for casual use, enthusiast will most likely want to buy a kit they can put together on their own.

For those who intend to go collecting RC cars for fun, either option is viable. The advantage to buying an RTR racer is that the cars will be assembles professionally, and will be very neat and in optimum

working condition, something which may or may not be the case if the buyer puts the kit together personally. On the other hand, if the buyer has good skills in putting things together, buying a kit offers the chance to customize and modify the RC racer in a unique way that may make it a more valuable part of the buyer's collection. Added decals, a modified paint job, some extra body work on the chassis, all of these and more can be used to spruce up an RC assembled from a kit.

And of course, lastly, there are those who will want to actually engage in RC racing competitions. For these buyers, even with little or no skill working with tools, it is definitely a must to buy a kit and not an RTR. Likened to professional racing with real cars, the best drivers will know almost as much about their cars as their mechanics do. In the case of an RC racer, knowing the ins and outs of how the RC is put together is essential for making modifications to optimize it's performance and kick butt on the track.

How to Check Durability of an RC Car

Detecting RC Car Parts Weaknesses

Like any other machine, an RC car will break down eventually from prolonged use. The wear and tear of time as well as the pressures of actual usage will place strain on the RC car's individual parts. Eventually, a weakened part will break down - usually in the middle of operation, often causing your RC to crash and burn. Knowing the signs of an RC car part's deterioration can allow you to prevent a more costly repair job later on.

There are several ways to detect trouble signals from your RC, and all it takes to find them is a little bit of care and attention to detail. Generally, one of the easiest indicators to spot is to look for tiny cracks and fissures in a part. Obviously, these little cracks can and will become not so little over time, and you should look into replacing warped, cracked, and bent parts as soon as possible.

Other than cracks that run along the length of a part, another place to look for signs of potential damage is at those points where the part you're checking is interconnected with other parts. Over loose or over tightened screws and bolts can cause either rattling and jarring of a part for the former, and not enough locomotion for moving parts for the latter.

A screw that's been tightened too far can also be prone to loose threads, a condition where the screw's over tightening has actually eroded the grooves in the hole where the screw is inserted. Loose threads in a screw hole can lead to the part suddenly popping out at any time.

The gears of the RC are another place to look for potential damage. Look at the teeth of the gears and make sure that they're all even and straight. Missing or broken gear teeth can simply cause a loss of locomotion, and at worst case scenario a broken gear can jam up while your RC is running.

The motor's durability can be checked by running it outside of the RC.

Take your RC apart from time to time and run the motor, and make sure it's operation is smooth and fast. Any hiccups while testing the motor may mean something as harmless as it's clogged with dirt or something more troublesome like having an internal part damaged. When in doubt with the motor, take it to an RC shop to have it diagnosed.

The battery should be checked as well for chips and cracks like the rest of the parts, but even more importantly, keep an eye out for battery fluid leaks. Remember that batteries contain acid. Discolored stains on your battery surface may mean it's starting to seep fluids out already. Don't risk it as "just" a problem with color. Since most electric RC car parts are made of composite plastic, an acid leak may warp or even eat holes in the rest of your RC.

Lastly, a good indicator of something wrong is the classic "funny" noise. Having a tuned ear is an essential for any mechanic, but even for the average person without any training it pays to know exactly what your machine sounds like under optimum running conditions. Any deviations from this sound may mean trouble. Rattling and clattering noises in the RC while running, a whirring sound that shouldn't be there, or a constant clicking noise can alert you that something is wrong. Finding and fixing these small problems as soon as you spot them can lead to saving yourself from having to replace your entire RC later.

Upgrading an RC Car

Pimping Your RC

Upgrading an electric RC car is the next step taken by many a racer after they get their skills sharpened in both driving and building RCs. Like with full size car racers, learning to drive and basic mechanics are simply the basics. After that, to get he most out of your newfound skills, you have to push your car's specs with mods to keep up with your own improvements, or even get a car with performance slightly above your current abilities to push yourself to new heights.

There are a lot of ways to tweak an electric RC, but when first getting ready for mods it's best to stick to the simple stuff, and tackle the more complex modifications later on. Too much too fast, and your RC will end up eating asphalt.

One of the simplest modifications to an RC to improve it's power is to change it's gear ratio. This does not require any changes to the motor itself, just the gears that connect it to the tires. It causes more revolutions for the tires for each revolution of the crank of the motor, the end result being an increase in overall speed. This puts a bit of additional strain on the motor, however, and may cause it to heat up faster.

Modifying the motor itself is simply a matter of finding one with a higher turn ratio on it's crank. There are wires inside the motor wrapped around the armature that make it revolve. These are known as turns. The fewer the turns on a motor's wires, the faster the crank spins. Also, there are single and double wire wrappings that, in car terms, can be compared to single and double overhead camshafts on an engine. A double 20-turn motor will put out more power than a single-wrapped 20-turn motor.

However, the higher the power output of a motor, the greater the

energy consumed from the battery, so this leads to shorter running times on the track. Still, this problem can be compensated with portable battery chargers and carrying multiple charged power packs ready for use.

Battery capacity is another modification for electric RC racers. This can be likened to increasing fuel capacity on an automobile. Generally, if you're increasing your battery's capacity by a small amount only, it doesn't change the size of the battery. Racing modifications, however, usually involve larger power packs too, which in turn necessitates the enlargement of the battery case in your RC's undercarriage. Unless you're out to compete at very high levels, it's best to stick to higher end batteries that still remain within the same size category as the one you're using. Once you push that to the limit, then you can think about expanding further.

Tires and shocks are another modification you can look into. Spiked tires are useful for running dirt tracks, and high grip tires are extremely important for flat-surface runs. Shocks should also be adjusted accordingly, using hard shocks for flat surface racing and shocks with more yield for all-terrain races.

Lastly, control modifications are also important. Getting a new remote control with a matching receiver for your RC that features improved range and response time allows you to extend the amount of control you have over your RC. This modification isn't really very important when doing backyard races for fun, but is essential if you intend to operate on large fields with lots of other competitors.

Price Range of Different Kinds of RC Cars

RC Car Categories and Pricing

Buying an RC car is just like comparing the prices when buying a real car. You literally have to shop dozens of potential sources to find the model you want and make sure it's for you. Price ranges change depending on a lot of factors, so it's impossible to give an established price guide that will last for more than a month or two and that can apply to every part of the world.

For example, some shops will want to add a larger profit margin to their sales, while online shops may add shipping and handling costs to their RC car pricing. So, instead of making a price guide it's a better bet instead to show you the different categories of RC car so that you'll have a better idea what type of RC you want and can narrow your search accordingly when canvassing your prospects.

First off, there are two major categories of RC car based on the type of motor employed. Electric engines run on battery power and are generally more common. The second and more expensive type of RC is the nitro type, which runs on a mild liquid fuel mixture. These are literally miniature versions of full sized car engines and as such not only cost more than electrics, but are more complicated and more expensive to maintain.

On the average, current pricing puts standard electric cars at stock level with no modifications at between 150 to 250 dollars (US), and nitro types at 300 to 400 dollars. This means that nitros will usually cost an average of 50% more than an equivalent electric RC.

Next off, there are two general categories of RC for both electric and

nitro types. Again likened to real vehicles, there are on-road and off-road RCs, and two and four wheel drive versions as well. When looking for a good buy and comparing prices from several sources, narrow your search limit to what you're really looking for.

The choice of getting an on-road RC or an-off roader is largely a matter of preference. At least in this category, unlike buying a real car where this choice leads to questions of the terrain in your area, cargo carrying capacity, seating space, and family comfort, the choice of going on-road or off-road for your RC is a much simpler one: Which appeals to you more? Truck and SUV fans in real life like myself will often get four-wheel drive off-road RCs to match our tastes, or maybe miniature dune buggies which are meant for speed even under rough terrain conditions. On the average, off-road trucks run at 200 to 300 dollars each at the moment, making them slightly more expensive than on-road RCs.

For drivers who know they'll be feeling the need for speed later on, however, on-road RCs are the way to go, as these are meant to operate really fast on flat surfaces like city streets and flat race tracks. Racing RCs aside, however, for casual racers who want some speed without going excessively fast can buy on-road RCs which are miniature, highly detailed versions of real life civilian car models. These are called Touring RCs, and they are a popular choice among casual RC drivers. The price for average RCs given earlier (150 to 250 dollars for electric and 300 to 400 dollars for nitro) was based on touring types.

Racing-modified on-road RCs will generally add another 50 to 100% to the price of an RC, depending on the rate of modifications made to the RC's engine, body work, chassis, and battery. For the beginner, however, buying a high speed racer as a first purchase isn't recommended.

What RC car accessories should you buy

Tinkering With Your RC

RC cars can be upgraded with simple modifications once you get the hang of racing. Beginners should naturally stick with stock racing kits, but once you've hit a point when you want to squeeze just a little more performance out of your RC car because your skills are beyond what the machine itself is capable of, what then? How do you mod your baby up? There are a lot of gadgets out there that can suit your needs to crank up your RC, and here are a few of the examples you should consider.

ESC - electric speed controllers. Without these built in, a motor's functions are restricted to going full speed or stopping suddenly, period. The amount of pressure on a joystick makes no difference to the acceleration or braking of an RC. ESCs allow a receiver to pick up signals from the controller which indicates the amount of voltage it's supposed to supply to the RC's motor. This is for controlling speed, acceleration and deceleration at a finer level. ESCs usually have a turn limit. Turns are the term used to indicate the power output of the RC's electric motor. the fewer the turns, the faster the motor spins. Get an ESC whose turn limit matches that of your motor.

Chargers and batteries - while electric motor RC cars will always come with their own charger, once you get serious it's a good idea to pick up something beyond a stock charger. Some good features to look for in a charger are portability and quick charging. New RC car batteries should

be ideally the same size as your old one, otherwise you'll have to get your battery case expanded to make extra room for a larger battery. Battery upgrades should focus on charge capacity for longer run times, or heavier output in case you get a bigger motor than your old battery could handle.

Steering Servos - like the ESCs, this adds increments to your wheel's turn radius. Most stock RCs will turn their tires on a full left or right, but steering servos allow you to adjust the tires' angle when steering.

New Wheels and shocks - upgrades to your wheels and shocks can make a huge difference in handling. Specialty tires are designed for either maximizing grip and speed for flat tracks or are spiked for better traction on dirt tracks. After playing and racing with your RC a bit you should have a good idea what modifications you need to do to your tires and shock absorbers.

Speed Readout - these are linked to your controller and actually display, in kilometers or miles per hour, your RC's speed. Not always a useful thing, but fun nonetheless when you crank up your RC to tournament levels and then you see speed readouts in excess of 30 to 40 miles an hour.

Car Stand - these are useful portable stands where you can mount your car to do work on it, whether testing it, cleaning, or repairing a broken part. While fixed stands are also available, portable car stands are better because you can take them with you to an RC racer competition and work on your car in between runs.

RC car maintenance

It's just a Small Car! - Maintaining Your RC

Keeping your RC in top form is a lot like maintaining your car, just on a smaller and slightly less complicated scale. Flat tires should be replaced, putty should be used to cover and seal cracks and fissured, the cable connections should be checked. Stuff like that. The first and most important thing to keep in mind in RC car maintenance is that it's not just a toy, it's a scaled down car with a battery running it instead of a gas tank.

Tires and shocks are checked pretty much like a real car's are, and the solutions to faulty ones are similar. Shock absorbers which feel a little low on cushioning should have oil added to them or replaced. Tires which are worn out or flat should be replaced.

Body work on the chassis and undercarriage (in this case, the shell which holds the car's internal components) should be checked for cracks regularly, and any detected damage should be sealed with putty or superglue. The same applies to spoilers and fenders too.

The battery itself should be checked regularly for leaks, as batteries contain acid which may leak out if the batteries cracked. Acid leaks can

damage the rest of your car severely, so make sure that your power packs are in mint condition. Over-charging a battery may also lead to early leaks if you're using the old school battery chargers, which don't have an automatic cut out for the power input when your battery's already been fully charged.

The motor should be checked in the same fashion as a real motor. Not as thoroughly or as complicated, perhaps, but like a real engine, listening to any sounds that seem out of the ordinary can be a good way to pick up on trouble that may require taking it to the shop for repairs or replacement.

Keep the gears oiled, polished, and cleaned regularly. For normal use, once a week or even every other week is fine, though if you run your RC through a particularly dirty or dusty track, you should clean it thoroughly afterwards every time. This same rule also applies to the wheel axles and the rest of the drive train. Undue friction from foreign particles in gears or along shafts will cause friction which scratches and chips the parts, and an excess of accumulated dirt will even clog these parts thoroughly, causing them to eventually seize up.

Wire connections should also be checked out regularly. Since all of an RC's motions and operation are directed and controlled by the receiver, look at it's wiring first. Loose cable connections should be fastened in place to make sure they don't pop out when you're running your RC.

Lastly, check the controls of the RC by dry-running it. Suspend the RC off the ground and use the controller to run it through it's full paces. Run it at top speed and check the turn rate of the wheels when you steer, and check the response time when you steer, accelerate, and brake. Doing this while the RC is off the ground keeps it from running off while you're testing it and crashing into things if something happens to be wrong.

How to Save Money in Buying an RC Car

Money Saver Tips in Buying Your RC

Shopping for a reliable RC car can be pretty dizzying. Given that the sport of RC racing has been around for several decades and is still going strong, there are thousands of available models of RC cars to choose from. For a buyer who's fairly new to the game, this can make the task of selecting a good RC a dizzying chore. To keep your wallet intact when making an RC car purchase here are a few simple shopping tips for RCs.

First off, gauge your skill level in the areas of building, repairing, and driving an RC car. If you're a total newbie to the sport, you should know that there are two general categories of RC racing car, dependent on their type of motor used. One is nitro RCs, which run on a mild form of gasoline. These are only for expert RC car drivers, so if you're new or looking for a second RC for yourself, don't pick a nitro up yet. Electric motor RCs are best for newbies, as their parts are far more common and much cheaper and easier to maintain.

The next consideration is to decide whether you should get a kit and build the RC yourself or buy an RTR (which means Ready To Run, or preassembled). If you're going for casual racing, RTRs are a better purchase than kits, since you won't have the hassle of having to assemble it yourself and potentially ruin a part of the RC. If you're good with your hands, however, and want to have a more intimate knowledge of your RC, you should definitely buy a kit and assemble the RC yourself.

Some shop owners also offer a service where they charge a little extra for an RC kit and do the assembly for you. This is a good option to pick if you want to go with an RC kit but don't have the skills to put one together. Before taking this option however, make sure you aren't getting charged an arm and a leg for this service. Normally it should only be a minimal charge (around an extra 5 to 10 percent on the price of the RC) for this service.

Speaking of skill level, make sure that the car you purchase is one set to your skill level. Look for motors with a turn of 20 to 25. Turn, or wind, indicates the speed of the motor, and the higher the motor's turn, the lower the speed of the motor. Get something slow to start with and buy more powerful motors later on when you're more confident with your driving skills. Also, just like real cars have single and double overhead camshafts to churn out more power, motors come in single and double turn varieties. A single-type 20 to 25 turn motor is recommended for beginners. For those purchasing a second RC, don't get a model with a lower turn rate motor yet. Instead, get one a double wind motor with the same turn rate as your first RC's motor.

Lastly, there's the question of buying a new or used RC car. There's nothing wrong with buying a used RC car, and these will always be RTR, usually from kits that the sellers have personally put together. However, when buying a used RC, all the standard rules regarding buying a used car also apply, so you should watch out to make sure you don't get a lemon. On the opposite end of the scale, you might get a winner of an RC, but it just might be a competition level RC because the former owner was a professional racer. In this case you get a well maintained monster speed machine. The next question is, can you drive it properly without sending it flying into a wall...?

Online Shops

Online RC Shopping: Where to Go?

With all the online shops running around selling almost everything under the sun, it gets confusing looking for a good buy on the internet. While smaller shops also offer good products at competitive prices, it pays to narrow your list down and check out the shops which offer the widest variety of goods while keeping the headaches of searching for a good buy to a minimum.

RC car shoppers have the headache of looking for a category that is both a collectible hobby and a sport, one that's been around for decades and still going strong. Searching online with incorrect keywords can toss you to sites that are only related to your search for a good RC in the vaguest sense of the word. To help you keep your

sanity, I've arranged a list of a few sites you can check out to get some pretty good leads for getting an RC.

E-Bay - well, duh! Everyone knows e-bay. It's pretty much a maddening place to visit, but worth it if you're after specific stuff. The pros to e-bay are that you'll probably be able to find yourself a good bargain eventually if you look hard enough. The downside aside from having to sift through hundreds of online offers is that unless you keep your wits sharp you might come away with a lemon. For experienced online shoppers only.

HobbyTron.com - this website is dedicated to selling stuff dedicated to model hobbyists. Their line ups include not only RC cars, but boats, aircraft, and military vehicles, as well as airsoft guns. Their search engine is user friendly and can be easily split into several categories to help you narrow your search down, from the major types of RCs available to price ranges and even categories for individual RC parts for those who are looking for specific parts for replacement or modification. For newbies to internet shopping, they provide neatly arranged links to the major categories of products they have available, and clicking on a product that catches your eye shows you the specs of the RC car model you've chosen to view. Definitely user friendly and not a hassle to look into! For beginners looking to buy their first RC.

Ashfordhobby.com - this website is similar to hobbytron in terms of the ease with which it can be navigated, but suffers a bit in terms of descriptions for the individual RC cars offered. However, it's edge is that it tends to carry a wider selection of parts than hobbytron. It's car kits are decently packaged, but it's main strength is for RC hobbyists who are looking to get a good buy on individual RC car parts for modding their existing RCs. Recommended for moderately experienced RC racers who want good parts or want to buy individual parts to patch together a car from components.

RCCars.com - this isn't really a shopping directory, but an online forum for RC car racers. You have to be a forum member to view the posts, but this website has categories including posts by other racers for selling kits and RC shop directories sorted by reliability. The forum members know what they're talking about and you can usually find the rarer stuff here by either checking the links other racers provide on their posts or making one of your own to ask for help. This is one of the better websites I've seen around, because the people who run it and the members are all obviously dedicated to the sport of RC racing. If you're going online to shop for RC cars, this site is for the pro RC car

racer who know the biz.

Reviews of Magazines about RC Cars

Popular RC Car Magazine Reviews

RC car racing has been around as both a hobby and a professional sport since the explosion in it's popularity in the 1980s. Since then, while the fad has died down in the sense that it's no longer almost a social prerequisite among people to own one, the hobby of RC car racing has stabilized into a solid competitive sport for serious racers and those dedicated to it.

RC racing magazines abound, and there are quite a few hobby related magazines in general that have made reviews about RC cars as a side

note at the very least. These articles vary, and usually give writer's reviews on the features of the latest models of RC cars. Given below are some sample reviews from the more popular RC car magazines regarding the latest models of RC.

RC Driver: Revo Reborn - this article by David Baker features the changes made to one of the most popular monster racing trucks running around in competitions, the Revo. The article is mostly about the conversions done to the new version of this RC, including a step by step account of changes made to the paint job, the engine, suspension, and chassis of this little monster truck favorite. This article shows how passionate RC racers can get about their RCs, and the extent to which a dedicated racer will make modifications to an RC. The changes made show every bit as much attention to detail and workmanship as a professional car driver talking about his F1 racer.

Xtreme RC Cars: HPI Wheelie King - this article by Derek B highlights the specs of a new monster truck racer that specializes in pulling wheelies - that is, having the rear tires accelerate so strongly and the balance of the machine adjusted that the truck can literally pop both front tires off the ground and run on the two rear tires alone. The article not only features the specs of the truck that allow it to pull wheelies with ease, you can also feel the happiness bubbling from the author as he describes the fun factor involved in operating a 1/12 scale car-crusher monster truck and popping wheelies with it. While technically detailed and showing a lot of hard facts and numbers, the article retains the impression that the writer is passionate about RC cars, and this passion shows in his work.

RC Universe.com: Sportswerks Turmoil - this is an online magazine article reviewing the Sportswerk Turmoil, an RTR (ready to run) RC buggy that is the company's follow up to the Sportswerk Mayhem. The review states that the Mayhem was a breakthrough model that made Sportswerk a popular name among RC racers, and goes on to compare the Turmoil to it's predecessor and seeing if it can live up to the reputation gleaned by it's first generation model. The article itself is extremely detailed and thorough, going into every part of the Turmoil's makeup and comparing it's current stats to the Mayhem. The general judgment of the review is that the Turmoil took everything that made the Mayhem famous and improved it, thus making it a good purchase all around, especially for drivers of the old Mayhem.

Modern or Latest RC Car Models

Cutting Edge RC Cars

The latest RCs coming out today are getting scarier and scarier. Even simple RTRs (Ready to Run RC cars) are being built with incredible acceleration, handling, and speed in mind. Built along the lines of small

automobiles, RCs have several advantages in construction over full scale automobiles in that when planning a model for speed and maneuverability, designers don't have to hold back and worry about details like passenger safety or carrying capacity. They can put all their efforts into making an RC go fast, fast, fast!

Current models of both electric and nitro engine cars pack so much power under their little hoods that the high end models can accelerate faster than most full size sports cars and match the average civilian automobile for speed. on something the size of your average house cat, this is downright frightening and exhilarating to think about. Some of the latest models of RCs are outlined below, to give you an idea of what kind of power these new puppies are packing and to provide a glimpse into the future of RC racing.

Dark Thunder - this is a nitro dragster produced by Megatech which sports a Q16 engine which produces 1.6 horsepower. Front tires are small and thin, while the rear tires are large and mean for sheer acceleration. To keep it from flying off the track it has a rear wing as well. It clocks in from 0 to 60 in under 2 seconds, and with a few hop ups can hit 80 miles per hour. It retails for 300 dollars.

Aftershock - this dragster by Grand Motor Sports features a center weighted engine for perfect balance and uses a modular chassis where you can choose from aluminum or graphite components to adjust weight and durability to your personal specifications. It employs a graphite vented disc braking system and it's speed shafts are titanium. The rear wing is graphite and has an adjustable attack angle, as well as optional frontal winglets for added stability. Utilizing cutting edge materials and giving racers a lot of options to adjust their model to suit their racing style, this dragster retails for 799 dollars.

Mad Spirit - this is a nitro off-road buggy by Tamiya powered by a 2.1cc engine with a drum style carburetor and uses a recoil starter for rapid acceleration. It's 4WD system uses a shaft drive located in a double deck frame composed of a layer of aluminum and a layer of resin. This composite approach provides both lightness and toughness to the frame of the buggy. It's shocks are oil dampened and runs with a double wishbone suspension system for efficient handling on most types of terrain while maintaining excellent speed, coupled with a disc brake system similar to that used on full sized automobiles for braking.

These three models of RC cars are the latest samples taken from the three biggest names in RC racing and manufacturing. As you can see,

their designs are miniaturized versions of the same ingredients used to make winning full scale racing automobiles. If people were eight inches tall, they would probably find a way to stick steering wheels on these things, and they'd be literally little race cars.