

# ATV TOPICS



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The advertisement features a red and black utility vehicle (UTV) parked on a dirt path in a desert canyon. The vehicle has large, knobby tires, a roll-over protection system, and a roof-mounted LED light bar. Two riders wearing helmets are visible inside. The background shows rugged, layered rock formations under a clear sky. On the left side, there is a semi-transparent grey box containing the KEMI MOTO logo, the slogan 'COMPLETE JOURNEY OF DREAMS', and a red 'SHOP NOW' button with a white hand cursor icon pointing to it.



ATVS – MOTORCYCLES – RVS – UTVS

I hope you enjoy this book!

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## An ATV Trail Date

The ATV trail is a place for dirt, mud, gravel and romance?

Today's ladies are hardly the proper models of the Victorian Era; in fact, there are plenty of gals out there just itching to ride their four-wheelers with as much gusto as their male counterparts. So if you're a dude who's scratching his head for the perfect place to woo your next girlfriend, why not choose an ATV trail excursion?

Of course, in order to ensure that your adventure is on the amorous side, you'll need to incorporate a little bit of heartfelt and sincere sweetness into the occasion. Start off by sending your "special friend" an invite for an ATV cruise to watch the sunset from a trail nearby. The invitation should be handwritten and sent via the mail, or, if you're cyber-savvy, emailed.

Plan your date as you would any other. First, map out the perfect ATV trail based on your companion's four-wheeling level. If she's just starting out (or hasn't ridden before), choose a smooth path that will leave her breathless and smiling, but definitely not terrified. On the other hand, if she's a veteran ATV operator, you can up the ante by picking out a more technically difficult trail filled with twists and turns. Regardless, make certain you know the mileage so you're at the appropriate spot come nightfall (a sunset always makes a lovely date backdrop.)

Because this is a date, you'll want to look your best. Though ATV riding can be a dirty proposition, a suit and tie is wildly inappropriate; however, that doesn't mean you have to show up looking like a slob. At least comb your hair and trim your fingernails. Remember to brush your teeth, too, as most people like fresh breath.

When you pick up or meet your sweet thing, show her how much you care by holding up a bag packed with plenty of goodies for the two of you to enjoy during your adventure. These could include some non-alcoholic beverages, yummy snacks, a radio or CD player for music options and a camera so you can capture your moments together.

During the ride, you'll no doubt have a plethora of opportunities to wow your significant other by pointing out exceptional scenery or by picking her a handful of wildflowers. Since this is a date, don't be in a hurry to get from point A to point B; allow yourselves to linger when feasible. And, of course, if the mood strikes, "stealing" kisses is always appropriate if mutually desired.

Should something go wrong along the way, keep yourself calm, cool and collected. Remember, this ATV trail date is about the journey, not about the destination and she'll recall fondly how you handled an unexpected situation if you keep a level head.

Though an ATV trail date of this sort isn't guaranteed to produce a relationship that will last the test of time, it's still likely to be a terrific experience for you both. You just have to put a little planning into the excursion and be open to possibilities.

## ATV for Beginners

Since their introduction to the public several decades ago, ATVs have become increasingly popular. They are very appealing to riders because of the amount of the excitement one feels as they are riding. People are now discovering that the whole family can enjoy the excitement of the ATV. On the negative side, though, more people are injured while riding ATVs than in any other recreational outdoor sport. If you are beginning to pursue an interest in ATVs, there are a number of things to know.

The first step is to head for the trails with someone who has experience with an ATV. Actually ride an ATV so that you can decide if you are really interested in getting one. Once you are certain that you like it, go pick out your vehicle. As of this second, it's not a law but it is recommended that people of certain sizes use ATVs of certain sizes. For example, if you have a son and he weighs 85 pounds, do not try to find an 800 or 900 cc machine for you to stick him on. Try putting him on a 440 or 600 cc machine. This is more in line with something he can handle. Also, make sure that you are fitted to the right machine.

It is usually not recommended that beginners buy brand new machines. As you end up becoming more familiar with the sport, you will talk with people who have different models, and you may end up finding yourself in constant pursuit of the "next best thing." After you have your first machine, definitely take a safety course. Courses are usually broken up into three or four weeks, with them lasting two and a half hours a night once a week. Consider these to be well worth your time and your money. Some courses even end with the instructor taking the class out on to trails. Courses are not mandatory - but they will most likely be one day!

Next, you should take the time necessary to sit down at night and read your owner's manual. Keep in mind that each ATV is different, so if there are labels or parts you don't know, the only real answers you will ever find will be in the manuals. Oh yeah...when you go out on the trail, make sure that you carry the owner's manual with you. If you have bought a used machine from a neighbor or someone else, you can get a copy of the owner's manual by taking the serial number off the machine and going to a dealer.

The next thing that you are going to want to do is to get out on to a trail and practice. That really is the only way that you are going to learn how to drive an ATV. Of course, you will always want to make sure that you have permission from whoever owns the land! In the beginning, be sure that you do what you must to ensure that you are riding sensibly. Ride with experienced people. As with other sports, you only get better by riding with people who are better than you. So ride with people who have a fair amount of experience. In addition, no matter how confident you are, when beginning, make sure that you always ride under the supervision of someone who can guide you. In other words, never, ever ride alone!

If you follow these simple steps, you will be able to enjoy all of the fun and the excitement that makes up driving an ATV. As with other things, it will take some time before you, as a beginner, are able to do it by yourself. Take the time to receive training on how to do it, and dive headlong into the owner's manual. Once you feel ready to hit the trails, practice driving your ATV. Remember to have an experienced driver with you. Following these steps will ensure your safety and will guarantee that you have a good time.

## ATV History

The ATVs (all terrain vehicles) we know today had very humble beginnings in the mountainous farming regions of Japan. The muddy mountain roads became difficult for the farmers to travel during spring thaws and were almost impossible to drive over with conventional vehicles or big machinery. The Japanese, always a culture to modify and tinker with something until they could improve it, created the three wheeled ATV. This vehicle did wonders for helping the local farmers. The ATVs were less expensive than the larger farm vehicles and it proved to be an excellent little workhorse.

The Japanese didn't stop there, though. ATV manufacturers took it a step further and realized that they could market these ATVs to Americans. America had nothing like the ATV and the first ATV arrived on our shores in the early 1970's. Honda was the forerunner of the ATV, and had a proven track record with motorcycle sales in America, having introduced the Honda Cub to millions of Americans only a decade before. The successful marketing slogan "You meet the nicest people on a Honda" came at a time when bikers had a bad reputation and proved to people that the average Joe could enjoy motor sports as well. By the 1970's, Honda had a reputation for building reliable, state of the art machines and their ATV was no different. This time the marketing scheme would be to show people how thrilling recreational ATV riding could be.

Over thirty years ago the Honda US90 made its debut and was called the ATC90. Oddly enough, the initial intent of the ATVs may have started out at the opposite end of the spectrum from Japan's working class ATV, but in the end the results were the same. After gaining popularity as a recreational vehicle, the ATV soon became popular as a working vehicle as Americans began to realize exactly how versatile this little three-wheeled vehicle could be.

The ATV proved to have several advantages for the working class man. First and foremost, the ATV was cheaper to operate than a tractor or pickup truck and during the gas crunch of the 70's that was a big plus. The ATV was also easier to maneuver in tight spots and could travel over practically any type of terrain. The only problem people found was the tires. The tires of earlier ATVs were low-pressure and while this worked fine on mud or sand, the tires punctured easily when going over sharper terrain, like a harvested field or sharp rocks. Overall, the ATV did work that no other piece of heavy equipment could do. The original tires weren't repairable either.

In 1975 the hubless wheel design was replaced with steel hubs and a wheel lined with a tough fabric on the inside. More durable plastic fenders were added. This time they produced fenders in bright colors for better visibility out in the bush. As the ATV's popularity grew the Japanese engineers didn't stop their research and development. They had a good thing going and they were determined to make it better. Their engineers went into the field to see how the ATV's performed and started gathering data to help with the next round of modifications.

By the 1980's, ATVs had gone the same route as dirt bikes and motorcycles. The ATV's were being used as a utility vehicle and for racing. More and more people were buying ATV's for riding off road trails and competing in races similar to motocross events. By 1985 ATV usage had gone from only 30% in the 70's to the whopping 80%. In the 1988, Honda made another groundbreaking leap with the ATV's design, the introduced the FourTrax 300 and a second model called the FourTrax 300 4x4. Up until this point the ATV still had the three wheels, now Honda added an extra wheel and gave the ATV four wheel drives, which provided more stability and power. They also fitted the FourTrax with a four stroke single cylinder engine which was air cooled and gave it a five speed transmission, automatic

clutch and a maintenance free drive shaft. Honda also thought to give the FourTrax an extra low gear for hauling particularly heavy objects as big as 850 lbs.

Today, ATV's are fully ingrained into our way of living. You can find ATVs on the dirt bike trails, on farms, on construction sites and a host of other places. Now countries all over the world are discovering the same thing Americans have; the ATV is a fun and efficient vehicle for handling a wide array of jobs in almost any environment.

## **ATVing for the Entire Family**

Since their introduction to the public several decades ago, ATVs have become increasingly popular. They are very appealing to riders because of the amount of excitement one feels as they are riding. People are now discovering that the whole family can enjoy the excitement of the ATV. On the negative side, though, people are often injured while ATVing, and because of this, it is vitally important that adults do everything they can to ensure the safety of both themselves and their children.

To drive an ATV safely, one needs to be strong, skilled, and, most important, mature. This is why children who are younger than 16 years of age should never operate an ATV. Adults must not forget that it also takes strength and stamina to be a passenger. A rider who is sitting behind the driver must be able to hold on tight for a long period. Often, they must hold on while the ATV goes over very bumpy ground at a high speed. The rule of thumb is that any child who is younger than six years old should never be allowed to ride as a passenger on an ATV.

It is probably not surprising to discover that head injuries are one of the causes of both death and serious injury on ATVs. These serious injuries usually occur when ATVers crash, fall, or overturn while moving. It should be remembered that children can also be injured if they are towed by an ATV during winter months while they are on a sled, tube, tire, or other device that is being pulled by an ATV. In Canada, statistics show that four children younger than 16 years of age die in recreational vehicle related accidents each year.

So, the question becomes: how can ATVs be used safely so that they are enjoyed by each and every member of the family who is old enough to do so? If your family happens to own an ATV, be sure that no one under the age of 16 is ever allowed to drive it. Again, it is tremendously important that you never allow any children younger than six years of age to ride as passengers. If you are a parent who owns and operates an ATV, consider following these rules to be an excellent opportunity to model the type of safe behavior you want your children to display.

Before you head out on your ATV adventure, be sure to be careful when fueling the ATV. Burns are possible, and you want to avoid them. Be sure to use the proper lifting methods when loading ATVs on and off trailers. This will help you prevent strains and crush injuries. Make sure that you check the weather forecast before you go out. It is probably not a good idea to venture out if a major storm is brewing. Also, make sure that you check the condition of the trails. Depending on how mountainous the area in which you will be ATVing is, you may want to assess whether there is danger of an accident. In the winter, always be sure to avoid ATVing on ice if you are not 100% certain that the ice is very thick.

You should also be able to identify the signs of hypothermia if you are ATVing in the wintertime, and know what to do if it does occur. Make sure that you always travel with the right equipment. You will want to have well-insulated protective clothing, such as goggles, waterproof suits and gloves, and rubber-bottomed boots. Of course, you need to make sure that everyone who will be riding is wearing a helmet approved for ATVing. Another thing you can do to ensure the safety of you and your family is to attach brightly colored antenna flags to your ATV. You will definitely want to do this if you are driving in a particularly hilly area.

Of course, the most important thing you can do to ensure your family's safety is to drive carefully. Use wisdom and caution. If you have followed the preceding guidelines, you will find that ATVing is a very

exciting sport that can be enjoyed by members of your entire family.

## ATV Safety Issues

Since their introduction to the public four decades ago, All Terrain Vehicles (ATVs) have become increasingly popular. They are very appealing to riders because of the amount of danger one feels while riding. This danger, however, should not be taken lightly. ATVs carry with them a number of safety issues which every rider ought to be concerned about. Despite the ongoing effort of ATV companies to make these vehicles safer, accidents are still happening on an all-too-regular basis.

ATVs originally came as both 3-wheelers and 4-wheelers. It did not take long, though, for the industry and the public to realize the risk of the 3-wheeler. With no true center of gravity, the 3-wheeler was an accident waiting to happen. It was widely assumed that once ATV companies permanently removed the 3-wheeler from the market, accidents would sharply decrease. While there has been a decrease in the number of deaths and injuries due to 4-wheel ATVs, enough have happened that the vehicle's safety is still a legitimate concern within the industry. For example, the U.S. Consumer Product Safety Commission (CPSC) revealed that in 2004 alone, there were an estimated 136,000 serious injuries in the United States that were directly related to ATVs. The preceding year, 2003, saw 740 people lose their lives due to ATV accidents.

The troubling aspect of this rather high number of deaths and injuries attributed to ATVs is that the industry and the CPSC recently agreed on a series of action plans designed to improve ATV safety. These action plans represent an agreement between the ATV industry and the CPSC to crack down on several issues that affect the safety level of ATVs. Some of the things that are now required of companies that sell ATVs are the labeling and safe marketing of ATVs. In addition, the CPSC has been given more say as to what ages may ride certain types of ATVs. The problem, however, is that a large number of companies that manufacture and distribute ATVs are based in Asia and Italy. Because of their international status, they are not required to abide by the laws of the CPSC. In other words, many of the companies that are making ATVs are exempt of any oversight by the U.S. government.

Due to the CPSC's inability to control the safety guidelines concerning the ATV industry, focus has now shifted to state control over the age of riders. Many states have recently enacted legislation that specifically governs the usage of ATVs on state-run land. Some of the factors that states deal with are the ages of riders and the type of engines they use. Several states mandate that the use of machines greater than 90cc by riders under the age of 16 is strictly prohibited.

Those who criticize these blanket policies concerning riders' ages claim that these rules do not adequately address the issue. For example, critics claim that many early teen males are bigger and sometimes stronger than fully-grown adult females. To protect themselves from this line of thinking, some states are simply prohibiting any minors (those under the age of 16) from driving ATVs. Advocates of ATVs, however, argue that training riders at an earlier age only stands to improve safety. They argue that children exposed to ATVs at an early age will gradually gain the expertise necessary to be safe drivers of ATVs when they reach adulthood.

In 1988, the All-terrain Vehicle Safety Institute (ASI) was formed. This organization seeks to address ATV safety issues by providing training and education for ATV riders. Most states now require that new users of ATVs undergo this type of training. This is one more in a series of attempts by the industry and the CPSC to improve the safety of ATVs. The need to do provide instruction in ATV riding and driving increases as the sport's popularity continues to grow.

## ATV Safety Training Course

ATV trail riding is a fun and exciting sport that can provide hours of entertainment for the whole family. There is nothing like a good day on the trails, out in the sun and wind, to bring the family together or to meet up with friends or to make new ones. But ATV trail riding isn't all fun and games; there is a large degree of safety precautions involved. While you're having fun you still have to remember that you are working with a motorized vehicle and, although it is designed for recreation, that vehicle needs to be treated with the same respect and caution that you would a car or a motorcycle. For this reason, before you hop on that brand new ATV and hit the trails, you might want to consider taking an ATV safety training course.

Unlike a car or motorcycle, no license is required to operate an ATV. Many people learn how to ride from older siblings, parents or friends. While learning from friends or family isn't a bad idea overall, there might be some finer points to driving ATV's that your family or friends might have left out.

While you might find some places that will offer an ATV safety training course not all courses have certified trainers. The ATV Safety Institute (ASI) was founded in 1988 with the intent to provide a course that would educate riders about the safe operation of their vehicles and the hopes that once the students completed the course that the numbers of accidents and injuries on the ATV trails would be reduced. The idea seems to have worked, since 1984 many of the accidents involving ATV riding have been greatly reduced. ASI is also a non-profit organization.

When you purchase your ATV most of the manufacturers such as Honda, Arctic Cat, Yamaha and others will offer you the opportunity to take the ATV safety course free of charge. If you don't own an ATV and might be considering buying one for yourself or a family member, you may still take the course for a small fee. As with the Motorcycle Safety Foundation where the course provides the motorcycle, some ASI courses might include the use of ATV's donated either by manufacturers, local motor sports shops or private donors. Check with your instructors first to find out if you need your own ATV or not.

An ASI course will take you through all the basics of operating and riding an ATV and only takes half a day to complete. Certified instructors will teach you step by step each required skill in a controlled environment. You will begin with the use of proper safety equipment and how to start and stop your vehicle properly. Later on you'll move up to going up and down hills and over and around obstacles on a closed course. Each lesson builds on the previous one, becoming more of a challenge as the course goes on.

Children as young as 6 years old can take the course. There are special classes for the age group between 6 and 16 and parents are required to be present during the classes. All ASI instructors complete a broad training program and must meet all of ASI's requirements before they are allowed to call themselves a certified instructor. ASI reports that they have more than 1000 active certified instructors in more than 12000 locations across the United States. For more information or to locate a course near you, visit the ASI website at <http://www.atvsafety.org/>

## ATVs and Land Usage

Since its introduction to the public in the 1960's, the All-Terrain Vehicle (ATV) has encountered many controversies. Some of these have dealt with the issue of safety, as original 3-wheel ATVs proved to be too dangerous for riders. Even improved 4-wheel ATVs still represent certain risks. Another controversy has been the age limits for the riders of ATVs. Many states have prohibited minors under the age of 16 from driving an ATV. One of the most predominant controversies regarding ATVs, however, has been the defining of the areas in which they are permitted. Where and when these vehicles are driven has continually popped up as an issue, as many drivers irresponsibly disregard laws that prohibit the use of ATVs in certain areas.

The issues surrounding ATVs and land usage are many. A major problem is that many riders intentionally cross over into privately owned property. They also have made a habit of crossing into public and private properties where they are obviously not intended to be. Often, the use of an ATV is strictly limited to trails, but riders still feel the need to leave these trails and venture on to other property.

Environmentalists are some of the biggest opponents of ATVs. They believe that riders who use ATVs for sporting purposes are inconsiderate of the environment. For example, they claim that the vehicle is used excessively in areas that are largely considered biologically sensitive, such as wetlands and sand dunes. Environmentalists claim that the deep treads on some ATV tires are capable of digging channels that drain boggy areas. They also claim that these tires damage the careful grooming of most snowmobile trails and increase the levels of sedimentation in streams. Proponents of ATVs, however, argue that the deep-treaded tires are necessary for the safe navigation of muddy and often rocky terrains. They also point to a number of findings that attribute the erosion and decay of sensitive habitats to out-of-control housing planning and industries that extract goods and materials from these highly sensitive areas.

ATV advocacy groups have organized to address these issues. Some of these groups have even gone so far as to purchase land for ATV riders to use. They have taken additional steps, such as building and maintaining appropriate trails for ATVs and obtaining permission directly from landowners to use their land for riding ATVs. Most importantly, many of these advocacy groups have committed themselves to educating ATV riders as to the best ways in which they can safely and responsibly use ATVs.

Unfortunately, those who do not follow the rules often negatively affect the image of the great majority of responsible riders. Those who see fit to ride off designated trails, on private land without permission, and under the influence of alcohol or drugs create a great number of problems for those who play by the rules. In addition, self-regulation is particularly difficult since the main public complaint against ATVs is that they create excessive noise. Although the majority of ATVs comply with noise regulations, there are those whose intentional violation of these rules can disturb the activities of other recreational users for miles across open landscapes.

Recreationists who are upset about irresponsible ATV use include snowmobilers who feel as though their trails are misused. Hunters have also complained about ATVs, as the loud noise of the engine often disrupts their attempt to catch game. These are but some of the major complaints lodged against ATVs and the problems they bring in regard to land usage and the environment. Groups that support ATV riders have tried a number of methods to lessen the negative effects of these vehicles. In addition to providing designated areas for riders to enjoy, certain advocacy groups have made an effort to educate all those who own ATVs on the safest and most responsible ways in which they can operate

their vehicles.

## Buying a Used ATV

Not all of us can afford a brand new 2007 ATV with all the bells and whistles. As with cars or motorcycles or any large vehicle for recreation or pleasure, we sometimes have to start out with buying second hand. Of course there's nothing wrong with purchasing a used car, bike or ATV. If you are going to buy used, you have to know what to look for, especially with a vehicle such as an ATV where you know that there is a chance the previous owner might have given the ATV some serious abuse on the trails. Before you begin to cruise the classifieds you have a couple of decisions to make. Who is the ATV for? An ATV for an adult is made differently than one made for a child. Do you want the ATV for purely recreational purposes? Do you want to race or just enjoy some leisurely off-roading with your family? Do you want to use the ATV as a utility vehicle?

The best place to start if you have never purchased an ATV before would be at a local dealership. You may not be able to afford one off the showroom floor, but you can still go look and pick the dealer's brain for information. At the dealership you can 'test' the different classes of ATVs. Sit on a few to see how they fit, each ATV will be different and you might find that some are more comfortable than others. Even though you are trying newer models, there really won't be too much of a difference between them and the older versions.

After getting all the information you can from the dealership, you will have some idea of what make and model you will be looking for in a used ATV. While you're at the dealership also check to see if they have a bulletin board for other ATV resources. Sometimes if you contact a club or other organization they may be able to put you in touch with people who have ATV's to sell. Classified ads and specialized classified magazines like you see for cars or motorcycles will also be a valuable resource. And of course the number one source for finding used vehicles is the internet. Places like eBay will no doubt have a lot to offer, the only problem with that is, unless the seller is in your area, you have no way to view the ATV up close.

When you find the ATV you want to purchase, definitely go to check it out personally. When you see the ATV for the first time, make note of the condition of the plastic on the fenders. The overall outward appearance of the ATV will give you a pretty good clue as to how hard the previous owner treated the vehicle. If the fenders or other plastic parts are cracked and ruined you can bet that you're going to have to replace them and replacement parts and accessories are expensive. You have to decide how much you are willing to invest in refurbishing the ATV if parts do need replacing. Check the condition of the seat for any rips or tears. Again, a ripped seat isn't a big deal and is totally replaceable, but do you want to spend the extra money to do that?

The next part of the inspection will take some work. You will want to lift the front end of the ATV up to inspect the undercarriage. With the ATV lifted, closely inspect the frame for any damage. Make sure there are no cracks or dents in the frame or any of the connecting welds. Note any areas that might have rust and check them for cracks too. Check the handlebars for any loose play and do the same to each wheel. Loose wheels could indicate worn wheel bearings or damaged ball joints. Oil, breaks and the air filter and air box should also be checked. Ask the owner if they have any records regarding oil changes and maintenance. Some owners might have an owner's manual that they can pass on to you. Take the ATV for a test drive too if you can to see how it handles.

Lastly, if a title is required in your state ask the owner if they have the title and if it is clear. Most states require a bill of sale with the VIN (vehicle identification number) on it. Whether your state requires a

bill of sale or not, it is always a good idea to have one to protect both you and the former owner in case a dispute crops up. Be aware that in most cases you are buying the ATV “as is”, which means the previous owner is not responsible for any problems you might find with the vehicle after you have purchased it and brought it home.

## Choices to Make for Your First ATV

For whatever reason, the ATV bug has bitten you. You've seen them on television or maybe you have a couple of friends that already go riding on the trails. Day in and day out, in all kinds of weather and in every season, people are enjoying recreational ATV trail riding.

But when you're new to this activity, where to begin? What needs consideration before making a major purchase of an ATV? Do you need to take a driver's test or a safety course? Do you want the ATV for recreation or for work? Are you thinking about competitive racing?

Finally, how much is this whole venture going to cost?

The first thing you need to do is take a trip down to your local ATV dealership. Not only will you be able to look at and try out different models, but you can talk to the dealer for information as well. Don't be intimidated about asking questions; salespeople are there to help - and also to make a sale. If you don't like the service at one dealership, visit another.

A good idea is to try to rent a particular model before you buy. Renting an ATV for a weekend is a smart thing to do if you plan on having a child as a passenger on your ATV. So many times, a child will want to try a new hobby only to discover they don't like it on the first day. There are some adults like that also, so if you're unsure whether or not an ATV is for you, then do try renting one first for a test run before you sign the final papers to purchase.

Currently, there are two types of ATVs on the market: Sport and utility. Some ATV models claim to be hybrids of the sport and the utility models. The utility ATV will have racks on the front and rear of the vehicle, while a sport model will have no racks. A hybrid model might have a rear rack only. The type of ATV best for a hunting, fishing, or camping trip would be a utility ATV. Those activities involve hauling a lot of stuff in and out of the bush, and you will need front and rear racks. Sport ATVs are for trail riding or racing and will usually have more speed available, as well as bright colors for high visibility on the trails.

Engine type is also another consideration. Two stroke engines have a system where they lubricate themselves by burning fuel. There is a specific gas-to-oil ratio mix used in order for the vehicle to run properly. A few models require that the oil reservoir be refilled every five or six tanks of gas. Noise is also a major drawback, a by-product of higher RPMs. Two-stroke engines are fading from popularity as technology improves, and more people lean towards the clean-burning four-stroke engine. Four stroke engines are quieter and are more fuel efficient than their two-stroke counterparts.

The automatic clutch is another feature that might cause some confusion. An automatic clutch requires putting the ATV into the appropriate gear when the engine hits the corresponding RPM for that gear. An automatic clutch does not mean an automatic transmission. Models with an automatic clutch will not have a foot peg for shifting; instead, there is a shifter for your left thumb on the handlebar. An ATV with automatic transmission has its drawbacks as well, as in order to have the machine engage the auto transmission, the driver must maintain a certain number of RPMs. This can be a problem when climbing steep, rocky terrain.

Another question is whether you need two-wheel or four-wheel drive, otherwise known as "two by two" or "four by four". A two-wheeled drive vehicle has the rear wheels do all the work and push the vehicle along, whereas a four-wheel drive employs all four wheels to provide better traction. Four-wheel drives do cost more, but are good for extra traction in particularly tough terrain. Newer machines

on the market will allow for “on-the-fly” four-wheel drive, where the four-wheel drive is engaged as needed.

Finally, there is the choice of a drive shaft, chain, or belt drive. All three methods of drive are good ones, but an enclosed drive shaft seems to make better sense for various types of terrain. With a chain or a belt drive, there is always the risk of snapping the chain or the belt while out on the trails, and then you might have to do some emergency repairs. In the end, the shaft drive will pay for itself with lower maintenance.

## **Headgear: Choosing the Right ATV Helmet**

You have already taken the time to choose the right ATV for you or a family member. You did your research, maybe test drove a few to make sure the vehicle had the right “fit” and found one that matched both your budget and your personal sense of style. Your shopping isn’t over yet. Along with having the right ATV for either the trails or working out in the field, you’re going to need the proper safety gear to go along with it. Gloves, jackets, pants and boots are definitely on the list, but the most important piece of safety gear you will own will be your helmet.

How do you go about finding a helmet that fits properly? How tight is too tight? How loose is too loose? Are all helmets the same? Starting with the last question, not all helmets are the same. You want to get a helmet specifically designed for use on a vehicle like an ATV or a dirt bike. You don’t want to get a helmet that someone might use on a regular street motorcycle. Most ATV helmets cover your head completely and have a face guard that extends over the mouth. When you first put the helmet on it might feel tight because of all the padding inside. If you can slip the helmet over your head without it feeling snug, then you know that it’s too big. Try shaking your head side to side and going through as many movements as you can to see if the helmet shifts or slides when you move. Also try to decide how heavy the helmet feels. Does it feel cumbersome? Do you think you would be able to wear it for longer than 15 minutes without getting tired of it?

The second thing to look for is how easily the helmet comes off. If you’re in an accident or get thrown from your ATV, you don’t want your headgear to go flying off in one direction and you in another, which totally defeats the purpose of having a helmet. Now that you’ve got the helmet on, adjust the chinstrap and cinch it tight under your chin. Grab the helmet from the back and try to take it off by pushing it to the front. Does the helmet slip down over your eyes and come off? Now try moving the helmet side to side. If you can feel your skin shifting with the helmet and the foam padding then you know you have a good, solid fit.

Women have one more thing to consider when they go to look for a helmet. The way a woman wears her hair on the trail will make a big difference in what size helmet she gets. If she has short hair that won’t need to be braided or tied up, then there’s no problem. If every time she goes riding she French braids her hair or tucks it up under the helmet, then she might need to go with a larger size than she would if she didn’t put her hair up. The hair takes up extra space and if you don’t account for that your helmet won’t be the right size.

Children’s helmets are another issue. So many parents are very money minded when it comes to getting clothing and gear for their kids that they might be tempted to get a helmet a size larger for the child to “grow into”. Unfortunately you can’t cut corners when it comes to buying a helmet. It has to fit snugly with no exceptions. As mentioned before, a helmet that is too large is as dangerous as having no helmet at all.

## Development of ATVs

ATVs (all-terrain vehicles) were first developed during the 1950s. The earliest models had six wheels instead of the four that riders are now familiar with. Honda was the first company to make the 3-wheel ATV in 1970. These were famously displayed in the James Bond film, 'Diamonds Are Forever.' Originally called the US90, the ATV was purely for fun, made with very large balloon tires instead of the mechanical suspension and smaller tires eventually introduced in the early 1980s.

One of the most important versions of the ATV was the 1982 Honda ATC200E Big Red. It was a landmark model in that it featured suspension and racks. This made it the first utility three-wheeled ATV available on the market. It was popular due to its ability to go anywhere on any type of terrain. The fact that it could go over types of terrain that most other vehicles could not eventually made it very popular with hunters in both the US and Canadian. It was also very appealing to those who were looking for nothing more than an exciting ride on the trails.

Soon Honda broke new ground by developing sport models. Honda seemed to have a virtual monopoly on the market, due to its patents on design and engine placement. The 1981 ATC250R was important because it was the first high-performance three-wheeler, featuring full suspension, a 248-cubic-centimetre two-stroke motor, a five-speed transmission with a manual clutch and a front disc brake. For those who enjoyed the sporting trail, the 1983 ATC200X was another in a series of landmark machines. It was developed with an easy-to-handle 192-cubic-centimetre four-stroke. This simple design was seemingly perfect for new participants in the sport.

Honda soon found itself competing with Suzuki. Suzuki led the industry in the development of 4-wheeled ATVs. It sold the first 4-wheeled ATV, the 1983 QuadRunner LT125, used primarily as a recreational machine for those who were just beginning to ride ATVs. In 1985, Suzuki stepped up their game when they introduced the first high-performance 4-wheel ATV, the Suzuki LT250R QuadRacer. This ATV was in production from 1985-1992, during which time it underwent three major engineering makeovers. This vehicle became the ATV known as designed primarily for racing by highly skilled riders.

Honda then responded a year later with the FourTrax TRX250R. This ATV has never been replicated. Kawasaki joined the battle to develop better ATVs when they introduced their Tecate-4 250. In 1987, Yamaha introduced a different type of high-performance machine - the Banshee 350. The Banshee 350 featured a twin-cylinder two-stroke motor from the RD350LC street motorcycle. This ATV was heavier and more difficult to ride in the dirt than the 250s. It soon became a favorite with riders who preferred the sand dunes. The Banshee is still a hugely popular machine, but 2006 was the last year it was available in the U.S. Riders will be able to pick up a 2007 model in Canada, however.

ATVs were first introduced to the buying public in the 1970s. They immediately caught on with those who were interested in doing something different outdoors. Original versions featured much larger tires and were offered in both 3-wheeled and 4-wheeled models. Soon, though, the 3-wheeled models of the ATV were prohibited, as they gained a reputation for being too dangerous. ATVs have since undergone a number of cosmetic and mechanical changes. Companies such as Honda, Suzuki, and Yamaha have developed a number of models that serve ATV riders of all tastes and interests.

## Differences between Utility and Sport ATV's

At first glance, it's easy to tell Utility and Sport ATV's apart, and many people will eliminate one class of these quads solely on appearance. However, other than size, there are some important differences between Utility and Sport quads that you might want to take into consideration if you are looking for a new ATV, or the next time you go riding.

If you're looking to do some work, or take a quad deep into uncharted wilderness, a Utility ATV with a winch is probably the best choice for you. Although Utilities are perhaps not as extreme as a Sport quad on level ground, Utility quads can crawl over or through terrain and mud that would swallow a Sport quad alive. Although the additional size, weight, and low end torque, not to mention the optional four wheel drive, give utility quads a huge edge in dicey terrain, there are many other features that allow a Utility get through the really rough stuff. Many Utilities have a locking differential to climb out of deep mud holes and other situations where traction is a problem. The differential will either make all the wheels turn at the same speed or shift torque to the wheels that aren't slipping. Most Utility quads also have independent suspension on all four wheels, allowing it to keep in contact with the ground and keep you in control no matter where you're at. In most utilities, the suspension is tuned to give a soft and predictable ride that insulates riders from bumps in the trail. These features draw many people to Utility quads, especially if they plan on using it for hunting or work around the farm. However, many people overlook Sport quads, even though they may be more suited for their riding style.

If you want to have the power and performance to simply pull away from your buddies on the trail, or carve a corner like you never thought possible, you should try a sport quad. Sport quads are engineered for quick acceleration and bursts of speed. Sport quads are designed to be run hard for optimal performance, and can stand up to hours of high-speed riding. The gearing is aggressive and the suspension is stiff for digging into corners, which is one of the complaints that many people have about Sport quads. However, you can adjust the tension and range of your suspension to give you a stiffer or softer ride, but if you soften the ride you will inevitably get more body lean and less performance. One factor not to be overlooked is the ease of getting a Sport ATV airborne and landing it gracefully. Some people can land jumps that put them over 100 feet in the air or do a back flip with small and maneuverable Sport ATVs. Although you may not feel up to flipping an ATV under any circumstances, hitting jumps is a lot of fun once you get comfortable.

Utility quads were originally designed to be worked, but recent years have seen Utilities get a lot sportier and more suited to recreational riding. Sport quads are also getting more user friendly, which gives them more appeal. Although each category of ATV has its advantages and disadvantages, in 2006 Yamaha made a very successful attempt at bridging the gap between Sport and Utility ATV with their 450 Wolverine, which combines the best features of both classes of ATVs. It is a light ATV with sport-like handling, but it has four-wheel drive and is balanced for high speed performance, but has the comfort and low-end power for rough terrain.

Essentially, Utility and Sport quads have different angles on how to have fun off-road. Sport bikes are designed for all-out speed and handling, while utilities seem like a Cadillac in comparison—they're bigger, heavier, slower, but much more comfortable to ride. The type of ATV that is best for you will depend on your riding style, and how far you want to push you quad and what kind of obstacles you want to use to test the limits of your quad. However, with the popularity of Yamaha's Wolverine, you can expect to see several crossover ATV's in the next couple years.

## How to Conquer the Mud with Your ATV

Although certain kinds of ATVs are setup for pushing through deep mud, the technique for getting to the other side remains the same. When crossing obstacles like mud, the biggest risk is getting stuck, which means coming to a stop. Because of this, speed is your friend, although you can hit a mud hole too quickly. However, hitting the mud with speed will usually give you the momentum to slide over the mud hole and out the other side even if your tires won't grip much. In some cases, you may want to keep at least one tire on solid terrain, if possible, so that your quad has something it can grip. You can do this by straddling the ruts and staying on the high ground, or by leaving one tire out of the mud. However, if the mud hole is too deep, you may tip your ATV over into the mud.

Some say that you should stand on your pegs when entering a mud pit so that you are more ready to respond to the uneven terrain. However, keep in mind that you may meet a lot of resistance when you hit the mud, causing you to come to a near-stop very abruptly. If you are standing when this happens, you might go for a dive in the mud. Although standing up may work for some people, you need to be comfortable and balanced enough to be prepared to unseen rocks and roots in the mud, as well as the possibility of a nose dive, or suddenly catching traction with the throttle wide open.

One mistake that many new riders make is giving their ATV too much gas once they start to lose traction. Once the mud starts to fly, more gas is not always the solution, since flying mud means that your tires aren't gripping anything solid. Sometimes a tire that is spinning a little slower will grab onto something that it would just grind against with more throttle. This is especially true if you come to a complete stop in the mud. When getting your quad moving again, easy does it, since too much gas means nothing but slinging mud. However, to get out of most spots after coming to a stop, some wheel spin is necessary, but more wheel speed usually doesn't mean more traction.

When you get into the mud, keep in mind that the tires with the most weight over them will be the most likely to get traction. So, if your quad is two wheel drive, you will want to keep some of your weight over the back axle, which will drive those rear tires through the slippery mud on the surface and down to something it can grab. Shifting your weight side to side can also help one of your tires get the traction it needs to pull you out of the mud.

Four wheel drive makes short work of a lot of mud that gives two wheel drive quads a lot of trouble, but four wheel drive is by no means an end-all solution for deep mud. Some mud pits may be entirely too deep for a stock setup, and a snorkel kit and exhaust extension may be needed just to ensure that your engine doesn't suck in a bunch of mud and debris. For mud this extreme, four wheel drive is a necessity, and a set of aftermarket tires with a more aggressive pattern will also help pull you out of the mud.

No matter what kind of ATV you take through the mud, keep in mind that you may only have one shot at getting through without getting a tow. The more you know about the particular mud hole, the better, but an experienced rider can tell a lot about a mud pit by its looks and how soft the rest of the trail is. However, a hole you can get through one day may swallow your quad after a good rain or may change drastically after other people have ridden through. The key to conquering mud is keeping cool and having several ways to get your tires to grip instead of slip.

## **Nutritional Snacks for the ATV Trail**

Could what you put in the ATV operator really make a difference on the ATV trail? Absolutely; after all, you wouldn't fill up your four-wheeler's tank with maple syrup and potato chips. Filling up your own "tank" with garbage is just as likely to result in a negative outcome such as fatigue, gastrointestinal upset or distracting hunger pangs early on during a long ride.

Want to know the secret to a long and happy ATV trail excursion? It's replacing all those sodas and juice bottles with clear and cool water. Though many ATV drivers swear by sports drinks, they might deliver too much sugar into your system. Though sports and energy drinks are coveted by athletes who are exerting tremendous amounts of energy, you're better off imbibing clear, pure and unflavored H<sub>2</sub>O.

What better food stuff than a handful of trail mix to go along with your thirst-quenching bottle of water? Before you start munching on the various trail mixes available on the market, take heed. Many of those so-called "healthy" snacks are loaded with trans-fats, unnecessary sodium, and far too much sugar. Instead of trying to sort through all the supermarket options, why not make your own? In a large plastic bag, throw in a cupful of a high fiber cereal, a half a cupful of nuts, a half a cupful of unsweetened dried fruits (such as cranberries, apricots, or raisins), and, if you must have something sweet, a modest sprinkling of semi-sweet baking chocolate chips. Shake the bag and share with your ATV trail buddies.

Though many of the energy bars on the market are woefully lacking in basic nutrition, there are some which are hearty enough to eat as a meal substitute. If you're going to be out on your ATV all day, you can replace lunch with one of these power-packed energy bars. Just make sure that your choice has at least 250-350 calories and a whopping dose of fiber. Watch out for energy bars that are all carbohydrates; try to find one that balances carbs with protein. Try to avoid any that are made by popular candy makers because they usually contain way too high a proportion of sweetener.

One of the most underappreciated fruits is the lovely yellow banana, a tropical delight that packs a nutritional punch. Though a medium banana is only about 100 calories, it is loaded with potassium and has reputedly therapeutic benefits. If you can stow a few of these edible golden treasures in a place where they won't get squashed during your ATV trail excursion, you'll be able to benefit from their natural wealth of nourishment.

Never forget that the more planning you put into your ATV exploration, the more you'll get out of the experience. That includes the type, amount, and quality of foods you bring with you on your next ATV journey.

## Off Roding Off the Strip

What do you think of when you hear “Las Vegas”? Slot machines, casinos, showgirls, money, glitz, spectacular shows and some of the best buffets in the States, right? What very few people realize is that southern Nevada has some of the best outdoor activities in the south western United States. Lake Meade National Park not only offers a great tour of the Hoover Dam, but Lake Meade is a hot spot for boating, water skiing, jet skiing, fishing and even some scuba diving. The roads that wind around the lake are frequented by motorcyclists and bicyclists, runners and walkers. If you go far enough into Lake Meade National Park you run into the Valley of Fire, a park named for it’s spectacular fiery red rocks and stunning landscape. On the west end of Las Vegas is Red Rock Canyon, more spectacular landscaping for horseback riding, hiking, camping, rock climbing, biking and motorcycling.

And let’s not forget the trails for the ATV crowd. In Las Vegas there are two major areas where the locals go to ride. The first one is about a half hour outside of Las Vegas at the north end of the strip just past Nellis Air Force Base. There are two ways you can reach the Nellis Dunes. You can either follow Las Vegas Boulevard (aka The Las Vegas Strip) to the north and past the Las Vegas Speedway until you get to the end of it or you can take the I-15 to the Apex exit and turn right. You can’t miss the Dunes on this lonely stretch of road. If you came off the I-15 the Dunes will be immediately on your left, in fact, you will be able to see them from the exit ramp. Every weekend there are trailers and RVs parked up on the Dunes. You can watch kids and adults riding the trails on ATV’s and dirt bikes from the road.

If you follow the Boulevard south as far as it will go, you will find yourself paralleling the I-15 going towards California. This stretch of road will take you to the Jean Dry Lake Beds. The area here is also wide open desert with plenty of space for ATV trail riding and should take only twenty to thirty minutes from the Strip.

Venturing outside of Las Vegas you can find another ATV hotspot, the El Dorado Dry Lake Valley Area. Take US 95 or the Boulder Highway south towards Searchlight. Seven miles after the Railroad Pass Casino before you reach Searchlight you’ll find the trails. And finally off of US 93 is the Logandale Trails System.

An inexperienced rider or first time visitor to Las Vegas might want to consider hiring a trail guide. Most of these trails are unmarked and difficult to follow if you aren’t familiar with the area. A guide will also be able to help you over the rougher patches of trail. All ATV outfitters in Las Vegas offer training on the ATV to make sure that you understand how to operate the vehicle. Off road vehicles in Nevada are usually don’t require registration, license or titles to drive, but drivers under the age of 15 require adult supervision and everyone needs to wear a helmet. Headlights are also required to be on from dusk to dawn. Another safety precaution is having a brightly colored flag attached to your ATV while riding the trails so that other riders can see you. Do not ride your ATV on the roads or highways either; trailer your vehicle to the site and stick to the trails. Above all else, do not operate your ATV or any other motorized vehicle while under the influence of drugs or alcohol.

## **Safety Precautions When on the ATV Trail**

Whether you are a veteran of the ATV trail or a novice rider itching to explore the great outdoors on your four-wheeler, you need to bring with you more than a little good sense and safety precautions. Without a significant amount of awareness when it comes to protecting yourself and your ATV, you could wind up injured, lost, or otherwise in bad shape.

First, it's essential that you bring a helmet with you. In many places, it's the law. Of course, there might not be other people for a hundred miles except you and your riding companions, so your initial thought process might suggest the opposite. Unless you're a top-notch prognosticator or have access to a 100% accurate crystal ball, that kind of thinking is as risky as gambling on a horse with a lame leg. It is always better to err on the side of caution and wear a protective helmet when you ride on the ATV trail.

Next, remember the adage, "Drinking and driving don't mix"? It goes for ATVs as well as automobiles, motorcycles, and boats. Even one beer has the ability to render you in a state of slowed responsiveness... and that means that a wrong turn could be the last one you ever make. Save the alcoholic beverages for the celebratory dinner or party the night after a long day of ATV trail cruising.

Make sure you consider using the "buddy system". Though there are plenty of ATV enthusiasts who head out into the mountains with nary a friend save their trusty four-wheeled playmates, it is typically not a good idea. The thinking behind this safety precaution is a reasonable one: if anything happens to you on the ATV trail, having someone else there will speed up the process of getting you to a medical facility.

Of course, it's imperative that you have your cell phone on you for your ATV rides, though you cannot always rely on it unless you have a good connection rate. Without a cellular phone, you could find yourself off a trail in no time and without a clue as to how to get in contact with anyone reliable to help you out.

If you're exploring a new ATV trail, bring along an updated map of the area. In fact, you might want to get a couple of them and make sure both you and your riding buddies each have one. Sure, it's not supposed to be cool to say, "Let's look at the map," but it's a lot better than shivering along a remote ATV trail at midnight, wondering how in the world you will make it back.

It's also important that you turn on the local weather station by the use of the radio or a television before taking a four-wheeler spin. Though most ATVs are built to handle some tricky conditions, it's best to know what kind of elements you're likely to encounter. That way you can dress appropriately, bring along suitable gear or leave the ATV riding for another day if conditions look especially dicey.

Finally, one of the most important safety precautions is to ensure that the operator of the ATV is healthy enough to navigate through the trail. If you're feeling at all ill or have a physical injury that could prevent you from being a dependable driver, you may need to head out another time. There is no shame in postponing an ATV ride if you're under-the-weather. And, besides, it's unlikely that you'll be able to enjoy the experience to its fullest if you're coughing, achy, or in pain.

By being prudent, you can ensure that your next ATV trail adventure is exciting, rewarding, and, most of all, safe.

## **The Best ATV Trails: One Man's Trash is Another Man's Treasure**

Next time you hear about a great riding spot, you might want to ask a few questions before you pack up to go ride there. Although all ATV's are designed for fun, they aren't all set up for having fun on the same terrain, and a trail that is great for some people might be a complete bore or be impassable for others.

Twenty years ago most ATV's were fairly similar. Three wheels were a lot more common than four, and they all had a utilitarian feel to them. Today there is a huge variety of ATV's that are specifically designed to meet the needs of nearly any rider. Most ATV's have become very specialized and are designed for mud, rocks, work, or just plain speed. However, because ATV's are so specialized, certain trails are much more suited to different types of ATV's. ATV's fall into two categories, sport and utility, and each type of ATV performs extremely well in a certain conditions.

For rock crawling and other extremely rough terrain, a large four wheel drive utility quad is the best, but skid plates are highly recommended. Four wheel drive is crucial for rock crawls since it's not uncommon to get a front or back wheel off the ground in order to get from one rock to another. Although it is possible to prod a two wheel drive sport bike over some crazy rocks, you'd better take the right line through the rocks the first time since most sport bikes don't have a reverse. The suspension setups in sport bikes also make them much more difficult to get across big rocks; this is because the suspension is much more rigid, and many of them lack independent suspension. In many utility quads, it seems like the tires reach down and grab the rocks.

When it comes to mud pits, the utility quads, especially those with four wheel drive are right at home. The extra weight of these monsters, along with locking differentials, let the tires sling anything out of the way that it can't grab onto. Sport bikes can be plenty of fun in the mud, but they are not the first choice for deep mud holes. Anytime you are crossing mud, speed is your friend, especially if you're on a sport bike designed for speed and acceleration, not the low end torque need to push through a wall of mud and water. However, stopping any quad in the middle of a mud pit, four wheel drive or not, can mean getting out the tow cable or winch.

Another unexpected trail obstacle that can mean trouble is sand, especially the type of sand that is found close to creek beds. Typically you can get some decent traction on dunes, but unpacked sand is a problem for most quads, unless handled properly. In loose sand, a sport bike has the advantage over heavy utility quad. A sport bike's light weight allows it to keep moving over sand, while most utility bikes are designed to dig deeper into terrain to get traction. Regardless of what kind of quad you have, speed is the best way to overcome sand without getting stuck.

The biggest issue that comes up when talking about great riding trails is what makes that trail great. Some people will say that mostly level trails with a few hills and ditches are great riding; they just want to get away from everything and enjoy the great outdoors for a few hours. Although there are many people that enjoy this type of ATV ride, it just won't cut it if you're in the mood to sling some mud, catch some air, or crawl up bluffs. Whatever kind of riding you enjoy, you might be very disappointed if you unload at a spot and find that the terrain brings out your quad's weaknesses instead of its strengths.

## The Great Debate: Two Stroke vs. Four

The battle for supremacy between two stroke and four stroke quads is likely to rage on forever, except for outside factors that may end this age old debate; it is very likely that upcoming legislation could end production of two stroke engines, making it impossible to get a new two stroke quad. So if you've ever considered getting a two stroke quad, the clock is ticking.

Mechanically the difference between a two stroke and four stroke lies in how often the spark plugs fire. In a two stroke, it fires once with every revolution of the cam, while a four stroke only fires the plugs every other revolution of the cam. With everything being equal, a two stroke will have twice as many combustions as a four stroke, which causes it to produce much more energy with the same size engine. While this may make a two stroke sound like an obvious choice, there are several drawbacks to the design and performance characteristics of two stroke ATV engines.

The extra energy and heat produced by a two stroke requires oil to be added to the gas to keep the engine properly lubricated. Because oil is put in the combustion chamber, two stroke engines smoke a lot, which is the reason for the imminent ban on them. One side effect of the impressive power that two stroke engines produce is that the top end of the engine must be rebuilt somewhat frequently, depending on how hard the engine is pushed. Although the rebuild is not terribly expensive, it must be done periodically to avoid rebuilding the entire engine.

For many riders the constant maintenance is worth the performance they get out of their two stroke engine, but the accessibility of this power may be prohibitive for some riders, riding styles, and terrain. In order to tap into the power of a two stroke engine, you have to keep the throttle close to wide open to stay in the power band. Although some models are better than others, some stock two strokes lack real power on the low or midrange. In the hands of an experienced rider, a two stroke is an amazing machine, but in certain scenarios, you can lose all your power by making a necessary up shift or slowing down without a hard down shift. However, their explosive power makes two strokes the engine of choice for many racers, especially in racing disciplines that require frequent jumps and quick acceleration out of turns, such as Motocross.

As far as typically maintenance, most four stroke quads require relatively little attention. Spark plugs and oil changes are always necessary, but you do not need to rebuild the engine on a regular basis. However, many riders complain of the high cost of rebuilding four stroke engines when necessary, but a four stroke engine should hold up longer than a two stroke if it is rode properly. If you keep a four stroke high in the rpm range all the time, you are asking for trouble. Although four strokes do not possess the characteristic break-away acceleration of a two stroke engine, they have access to power through a larger rpm range, which eliminates the need to have the throttle wide open all the time. Access to power in the low and midrange allows for a much more leisurely riding experience, or the ability to dive into deep mud and come out the other side. Because a four stroke has power on the low end, it has a much easier time freeing itself from deep mud, while a two stroke is usually doomed if it comes to a stop in mud. Four strokes, in many cases, have a higher top speed than two strokes, but will take much longer to get to their top speed. Four strokes have improved a lot over the years, with some many dominant racing quads being propelled by four stroke engines. However, the Honda 250R, a classic two-stroke quad, is still taking podium spots over ten years after it began production.

For the most part, two stroke engines are better suited for light sport quads and four strokes, which produce most of their power on the low end, are more suited for heavier quads made for mud, rocks,

and work applications. The debate between two stroke and four stroke engines is not likely to end soon, but production of two stroke engines may. If you prefer high speed, airborne, adrenaline heavy riding and you don't mind spending some time turning a wrench, you may want to get your hand on a two stroke quad while you still can.

## **The Great Western Trail: A Utopia for ATV Trail Riding**

The American West was founded on dreams and the pioneer spirit. “Go West young man!” was the battle cry of thousands of individuals looking for adventure and a fresh start. In time, the way west had been criss-crossed by dozens of trails and passages to reach the Pacific Coast. In time, those trails would become a means for commerce as well as leisure travel and the means of transportation would be as varied as the people that used the trails.

The same spirit lives on today in the American West. People sitting around campfires still have dreams and the drive to see them happen. One such group of people is the founders of the Great Western Trail. The GWT isn't a route for a modern day cattle drive, the Great Western Trail is an idea in the making for a multi-purpose outdoor vehicle trail that runs from Canada to Mexico. The trail won't just be for ATV and dirt bikes, the goal is to make the GWT available to hikers, horseback riders, skiers, snowmobilers and many other outdoor enthusiasts.

Putting together a trail of this magnitude is going to take a lot of work and forethought. You can imagine all the precautions and planning that needs to be in place for these motorized and non-motorized trails to work together. Overall the “trail” will most likely be a collection of trails running parallel to one another. You can't have a horse and an ATV running on the same trail without some obvious safety issues. There are also some areas that motorized vehicles will not be allowed to go, but a horse or a hiker would.

The GWT started back in 1985 and so far there are several hundred miles in Utah and Arizona. Like the Eastern and Western railroads of the old west, the goal is to have both the Northern and Southern sections of the trail meet in the middle, completing a way from Canada to Mexico. Portions of the route are already created and when the whole trail is finished it will cover a total of 4,455 miles through Arizona, Utah, Idaho, Wyoming, and Montana. Much of this route is mapped out over some of the most beautiful scenery the United States has to offer. The landscape of the American West is gorgeous enough from a car or the back of a motorcycle, but riding through miles of Arizona desert or the stunning Utah rock formations on an ATV can be downright spectacular.

The builders of the GWT hope to utilize trails and roads already existing along the route. By doing this it cuts down on any new construction that needs to be done. The Great Western Trail is also making use of much of the public lands along the way, especially the land deep in the center of the Rocky Mountains in Colorado. The trail will also utilize a few National Forests such as Bitterroot and Salmon National Forests and a portion that follows the Continental Divide National Scenic Trail. Still other sections of the trail will wind along the western portion of Yellowstone National Park.

Eventually when the trail is finished, you will be able to spend a week or so riding the trail and have the ATV trail riding experience of a lifetime.

## **Tips for Taking Jumps and Sharp Turns on Your ATV**

You may notice that some ATV riders can make certain obstacles and jumps look like child's play while others make them look dangerous and impassable. Although superior equipment may be partially responsible, experience and familiarity with your quad is what separates the men from the boys. Riding time is the best way to get better, but there are a few techniques, like making you quad pivot around a corner or taking a jump, that can make riding a lot more fun.

If you want to take a corner quickly without losing much speed, depending on your ATV's setup and capabilities, you may be able to conquer the turn by making your quad pivot around it. Although this technique works best with light, powerful sport quads, it can be used with utility ATV's as well. Enter the corner wide and fast instead of slowing down or coasting through. When you get to a point in the corner that you hit a spot where you can turn your quad in the direction you want to go, turn your wheels in that direction, hit the front brake hard, and open the throttle. When done properly, this will momentarily cause your rear tires to lose traction and spin your back end around. When you have turned your quad far enough, simply release the brake and keep on the gas. You may fishtail as you finish this maneuver, but steering into the skid will keep you going where you want to go. The result is your quad turning quickly around an obstacle without losing much speed. Making your back wheels lose traction and spin you sideways is the key to this maneuver, so you may get better results if you lean forward and take some weight off the back wheels. This technique is easier accomplished on quads with stiff suspension, low center of gravity, and lots of power on demand. The lack of these characteristics will make this maneuver more dangerous and difficult to do properly, but it can be done if your front brakes can slow you down and you can get your back wheels to break loose.

The key to doing jumps on an ATV is technique and respect for your ride. When done properly, most jumps are relatively safe, but if you bite off more than you can chew, you will get hurt. With this said, easy does it when it comes to learning to get your wheels off the ground. No two jumps are exactly the same, but there is a simple technique for getting air without kissing the handlebars when you land. The length and steepness of the jump will play a large role in how fast you want to be going when you hit a jump, but be conservative on the first couple passes and that will tell you what kind of jump you're dealing with. Sometimes a jump will have a lip on it that will do unexpected things to your quad, so be prepared. On your first pass, you will want to approach the end of your ramp (whatever it may be) with enough speed that you feel you would get a little bit of lift if you just held the throttle steady all the way through. However, just before you reach the end of the ramp, let off the gas momentarily, but then quickly give it as much gas as possible. This accomplishes two things: first, the burst of power right before you leave the ground launches you into the air; second, it causes your front end to shoot up into the air, much like doing a wheelie. By entering a jump with this posture, your back tires should hit the ground first, ensuring that you and your quad don't do a swan dive into the ground. When you are airborne, let off of the throttle so that your quad doesn't over rev while to wheels can spin freely. After your first successful pass, you will know a lot about that particular ramp and what your ATV is likely to do when you jump it. Using this information, you can get an idea of the best speed to hit the ramp at and how much throttle to give it before you leave the ground. For many ramps, especially those that are short and have a sharp angle (like the edges of dried out ponds), first gear may be plenty of speed and power, and if the ramp is too steep, trying your approach in second gear could be painful.

Anytime you ride an ATV you should exercise caution, especially when riding in a new area or trying new techniques. Modern ATVs are extremely powerful and can get out of control quickly if you do not respect their power. When trying any new techniques, take it easy and master it at low speeds.

Although something may look simple, every quad handles differently and will react to obstacles and maneuvers differently. Trying to do things that are beyond your skills or your ATV's handling capabilities can be disastrous and keep you from riding again for a very long time.

## Using Courtesy While Driving an ATV

Since its introduction to the public in the 1970's, those who ride All-Terrain Vehicles (ATVs) have had to deal with a number of issues regarding their behavior. Some of these issues deal with safety, while others deal with rider's behavior towards sharing trails and those whose land they trespass on. Many drivers irresponsibly disregard laws that prohibit the use of ATVs in certain areas. Because of this, hundreds of trails have been designated as safe and legal places for ATV riders to use. As with all forms of vehicular travel, there are a number of rules, both implied and legislated, which have been developed to ensure the safety of those who drive ATVs.

Regardless of why someone is using a trail, it is important to remember that all trail users are responsible for watching and listening for others. This should result in those who use trails actively looking and listening for others, as opposed to merely reacting when someone or something comes their way. This approach will go a long way towards preventing the accidents and misunderstandings that can take place on the trails.

It is generally accepted that traveling on the right side of the trail removes indecision about the proper side on which to pass. If you need to pass on the left for one reason or another, always ask for and get permission before you do so. Make sure that you are able to slow down significantly and use caution at all curves and junctions. While riding an ATV is not the time that you want to experience a surprise! Surprises are never safe - regardless of what type of vehicle you happen to be riding!

If you should encounter a horse while you are riding your ATV, always yield to the horse and rider. Go out of your way to make sure that the horse has seen and heard you. In addition, you will want to give the horse adequate room to pass you on the trail. Remember that motorized recreation vehicles, such as ATVs, can usually be heard coming, and the horse rider may be well out of the way. If not, be courteous, and shut off your motor. Then allow the rider to get a safe distance beyond you before you start it back up again. If you happen to notice that a horse is becoming edgy, nervous, or agitated, always turn off your engine. Then ask the rider what you can do to make the situation better for him and the horse.

Unfortunately, the great majority of responsible riders have had their reputation negatively affected by those who do not follow the rules of the trails and who do not take the necessary time to be courteous. Simple courtesy and respect for others and their property will discourage riders of ATVs from riding on non-designated trails, or from using other's private land without permission. This type of responsible thinking will also prevent riders from driving their ATV under the influence of alcohol or drugs. A number of accidents happen each year because of this unfortunate behavior.

If you are planning riding your ATV on a trail designed for ATV use, keep in mind that there is always a good chance that you may encounter someone who is using the trail for a purpose other than the driving of ATVs. In these situations, it is best to give others the respect that you desire from them. Be active in your effort to hear and see other who is on your trails. When you do encounter them, always yield.

## Ways to Beef-up Your ATV

With new ATV's coming out every year, a quad that is king of the mountain one year may fall back to the middle of the pack the next year. And, of course, the more you ride and get comfortable with your ATV, the braver you are going to get and eventually reach a point when you have perfected the art of riding and run into a mud pit you can't cross or notice that some other quads can get the jump on you. Many people simply trade their quad when this happens, but there are a lot of things you can do to your quad to get even more power or custom tune your ATV to suit the terrain in your area or your riding style.

One of the easiest ways to tailor your quad to local riding conditions is to simply change your how you grip the ground. There is a large variety of tires on the market that are made for extreme mudding, sand, and all out speed over any terrain. The most obvious factor you can change about your tires is the tread pattern. Mud tires will typically have a deep, well-spaced tread with a lot of surface area, which allows it to push against slippery mud. Although tread pattern comes into play when playing in the mud, so does sidewall strength and tire thickness. A mud tire with a thicker sidewall will give you more consistent performance when you're axle deep in sludge. Many people find that lighter rims also give them a slight edge in the mud. Like mud, getting through sand is made much easier with tread that can push and grab a lot of sand. However, if you're trying to get faster, especially through the corners, you might benefit from a knobby open-patterned tire that is designed to grip trails without deep mud pits. You can also get tires to make the ride a little softer or give you a firmer grip, but the tires only affect how you grip the trail. Sometimes it's necessary add some muscle to your quad to get the performance you're looking for.

Although there were once many people who would change sprockets to get more low-end power or top-end speed out of their quads, most of today's quads have balanced gearing based on weight, engine power, and what it was designed to do. Many riders find that tinkering with sprockets don't change their quad's performance characteristics as much as they'd like, and instead turn to performance modifications to squeeze more power from their ride. Although you can go deep into your engine and change cams and other parts that will make your engine even more stout, you can get noticeable results from more affordable and less complicated modifications.

The easiest way to get more power from your quad is by adjusting the airflow through your engine. Simply changing the intake on your quad will give you an increase in power because you force more oxygen into the combustion chamber. Switching to a less restrictive exhaust will get more power to your wheels since the engine doesn't have to work as hard to breathe. Headers are another bolt-on modification that will let your engine work more efficiently and add power to your quad.

One popular modification that makes it possible to take on really deep mud holes is a snorkel kit and exhaust extension. A risk you run when diving into mud is that you will suck some mud through your intake, or it will enter your engine through your exhaust. Getting mud or water in your engine will shut it down in a hurry and may require a trip to the shop to get all the water out of your engine. A snorkel kit may be necessary to get through some mud holes you encounter when riding.

Regardless of what kind of quad you ride, with the horde of new ATV's that come out year after year, sooner or later it will fall to the middle of the pack. The good news is that aftermarket parts are also getting better all the time, which allows you to custom tune your quad without breaking the bank.

## What ATV Trail Best Suits Your Personality?

“I’ve found the best ATV trail! You have to try it!” How many times have you heard that statement from one of your ATV-loving friends and then rushed out to have a terrific ATV riding excursion, only to find that you’re not all that enthralled by a trail that another four-wheeling enthusiast has deemed “awesome”?

Since you are an individual with a definite personality and not a robot without preferences, what leaves you breathless in terms of an ATV trail might not raise the pulse or even eyebrow of another ATV rider and vice versa. Hence, we’ve put together the following guide to help you figure out the perfect ATV trail for you.

If you’re someone who likes speed and want to feel the wind rushing past you, then you’ll probably like an ATV trail that’s flat and fast.

Flat and fast trails are best described as terrain that allows you to gun your ATV’s motor and quickly get from one point to the next. Your best bet is to find a low-lying area, as mountainous regions rarely have long stretches that include no twists or turns. ATV trails in the middle states of America lend themselves to this kind of speedy ATV riding, as they are notoriously level and have an attractive, earthy quality.

If you’re a four-wheel rider who loves the thrill of wicked turns, then you should consider an ATV trail that’s twisting and wild.

You can hoot and holler along an ATV path that winds its way through a wooded area or along a stream bed. Do your best to avoid extremely rocky areas as they can be dangerous, but don’t be afraid of taking on some of the smaller hills and roaring your ATV around some of the more adventurous terrain.

If you’re an enthusiast who loves steep climbing followed by hair-raising descents, you might enjoy an ATV trail that’s up and down.

Head to the mountains, my friend! In the mountains, you will find exactly what you’re searching for in terms of rollercoaster-like ATV adventures! Not only will you be able to test your ATV’s moxie on some serious grades, but you’ll also be able to whiz down scenic mountainsides. Remember to keep your speed in check, though; up and down terrain is only safe when you keep a cool head and a conservative pace.

If you’re a laid-back person who just enjoys a little bit of everything, why not try an ATV trail that’s a pleasure potpourri?

The “pleasure potpourri” is ideal for the ATV trail rider who can’t make up his or her mind as to what the “perfect” excursion might be. And, best of all, these types of hodgepodge ATV journeys can be found almost anywhere in the country. In fact, you might just find all the necessary elements of a mixture of hills, valleys, vistas, and gravel paths within a few miles of your own home.

No matter what your personality type, you can rest assured that there is an ATV trail out there for you and never be afraid to go outside your preferred style. Even if you’re a hard-and-fast “pleasure potpourri” four-wheeling lady or gent, you just might discover that you actually harbor a secret love of

“twisting and wild” ATV paths. You’ll never know until you try, so get out there and start exploring!

## What Makes a Good ATV Trail?

There are thousands of ATV trails throughout North America (and more are being charted every day), but how do you judge whether you've found a good one or not? Here, we'll examine a few of the elements that you need to look for when deciding where to take your four-wheeled "baby" for your next pleasure cruise.

Generally, if you're someone who is familiar with four-wheeling, you'll want an ATV trail that has some length to it. Otherwise, you could risk becoming bored when you just go in circles in the same field. ATV trails can be a few to a hundred miles long; start small and gradually build up your endurance. If you're a beginner, ask a more experienced ATV operator to show you the ropes; heading out on your own is a dicey proposition and not recommended.

You want an ATV trail that matches your ability, or it won't be much fun. Thus, if you're a novice, don't start your four-wheeling hobby in an extremely mountainous region or one that requires a great deal of ATV riding know-how. Similarly, if you're someone who has a great deal of ATV operation experience, you should find a suitable trail or you'll be overcome by ennui an hour into your excursion.

One of the greatest aspects of ATV riding is enjoying the natural surroundings, so be certain that your next trail ride is one that includes some amazing views or which allows you to soak in the beauty of the area. Remember you don't have to be a photographer, an artist or a poet to be moved by a snaking stream or a radiant sunrise.

Not sure if a trail or area is open to ATV travelers? Then stop before gunning your motor and don't ride on any trail or in any region until you have been given the "okay" by either the property owner or a legal authority. Far too many four-wheeling enthusiasts have given the sport a bad name by ripping through private property or tearing up national parks. There are plenty of legal ATV trails out there; make sure the one you choose is on the up-and-up or you could be hammered with a heavy fine.

The last thing you want is to get lost during an ATV trail ride. Riding without the proper gear while outside in the elements can be uncomfortable, scary, and deadly in some situations. Therefore, if you're unfamiliar with your ATV trail, make sure you obtain a map of the region so you can stay aware of your bearings. Even if you never need to glance at the map, it's still better to have it than to end up wondering, "Where the heck am I?" while a dark night approaches.

Finally, one of the most important elements of a great ATV trail is that it is one you want to share with friends and other riders. You will know you've found an awesome path when you can't wait to get on your blog and start bragging about your recent excursion to other four-wheeling adventurers. After all, when you've found something that's really exciting, it's up to you to share the news with your friends all over the world.

## Why Some People Dislike ATV Riding in Nature Areas

There has always been great debate between motor sport activists who want to enjoy riding their machines in the outdoors and other nature lovers who claim that off-road motor vehicles harm the environment and ruin the area for anyone who wants to enjoy the outdoors in other ways. The argument can be made that motorcycle and ATV riders have as much right to use state lands as anyone else, but most other outdoor activities don't interfere with riding the way riding can interfere with hiking, hunting, fishing, bird watching, or even the balance of nature and maintaining consistent flood plains. Although there may always be a conflict, understanding what other nature lovers do and how your riding affects them will help keep ATV riding in current areas, and possibly help it spread to even more areas.

The number one justification for banning ATV riding in certain areas is the detrimental affect it can have on the environment. Although ATVs smoke, are noisy, and help redistribute the mud on a piece of property, these factors have little affect on the environment. However, ATV riding, if done improperly or carelessly can damage waterways and have very noticeable effects on the local environment. The biggest and most likely risk is damage done to vegetation on the banks of waterways and nearby areas. Because those plants hold the riverbank together, if the plants are killed by riding over them, the soil in that area can be easily washed away, changing the flow of the river and oftentimes causing flooding. This kind of flooding causes damage to bottomlands, which is usually very fertile and a hotspot for deer, turkey, wild mushrooms, a plethora of wild birds, and many other things that other nature lovers seek out. In addition, increased erosion along rivers and streams cause fine sediment to fill the water, making it difficult for creatures like tadpoles and crawdads to grow and develop, which hurts the ecosystem, as well as the fish population and fishing opportunities. Most state laws do permit you to cross a river or stream on an ATV, but the most damage comes from riding up and down waterways because so much sediment is stirred up in the water.

Other than not damaging waterways and floodplains, there are several other things you can do to ensure that your riding doesn't interfere with other activities that go on alongside the trail. For the most part, you should be fine as long as you keep your riding on the trail. It is when you stray from the trail that you will bump into people who don't appreciate motor sports as much as you, and you may, in some cases, ruin their entire day. If you ride in areas that permit hunting, you should take a minute or two to find out what animals are in season so you know what else is going on in the woods. Many hunters complain of ATV riders driving by their hunting spots to see if they're having any luck. Although most hunters don't mind chatting it up, keep in mind that many hunters look forward to bagging a big deer or turkey for months, and an ATV off the trail is often enough to disrupt an animal's normal patterns and keep hunters from seeing anything. It would be the same as if you were looking forward to a riding an area, only to turn your back for a second and have a hunter ruin your trip by slashing your tires. Your day, as well as weeks or months of planning and anticipation, would be destroyed in a few short seconds. The same can be true of bird watchers, hikers, and people fishing in streams and ponds where you ride. Although you may not realize it, an ATV is a noticeable presence in the woods, and not one that all creatures, including humans, appreciate.

Although there can be some conflict between motor sports lovers and other outdoor enthusiasts, a little respect can go a long way. Also keep in mind that many people who hunt, fish, hike, etc, also ride or have ridden ATV's and vice versa. Many hunters will use ATV trails to cover ground quickly and get into areas that are usually undisturbed and catch their prey unsuspecting. Most hunters realize that deer and turkey do get used to the sight and sound of ATVs on trails. However, when you leave the trail

with your ATV, you are disturbing the wildlife and possibly flood plains, which give other nature lovers and lawmakers a solid reason to restrict ATV riding to certain designated areas.

## **Conclusion**

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