

## Types of All-Terrain Vehicles – Basics for New Riders

An all-terrain vehicle (ATV) is typically a three or four wheeled vehicle that is designed for off-road usage. But, there is so much more to ATVs than just that simple description. There are many options available to a new ATV rider that you should be aware of before purchasing your new ATV.

There are two main categories for ATVs – sport models and utility models. Utility models are designed to have more power and less speed than the equivalent sport model. The reason for purchase is usually more work-related than pleasure-related. Utility models are the type of ATV that is used on farms, for trailer towing, or for hauling small loads.

Because of their usage requirements, utility models have different component characteristics than a sport model. For example, a utility ATV will have a more durable driveshaft than what is used on a sport ATV. Typically, the utility models have four-stroke engines. Utility ATVs with gears offer low first gears so that they can provide excellent torque for towing capability. They also usually have stiffer suspensions and larger tires. Utility ATVs are larger and heavier than sport ATVs.

Even though they are considered work vehicles, utility ATVs can be very fun to ride for recreational trail riding. Overall, they are easier to learn how to ride on and are often the purchase choice for beginner riders.

Unlike utility models, sport models are small, light, and fast. They are designed for recreational use and performance. Sport models will have either two- or four-stroke engines. Most sport ATVs have either five or six gears with a manual clutch. Many of the models also come with a reverse gear. The gear ratios tend to be higher than a utility ATV. In addition, the suspension systems are set-up to handle hard landings from jumps and are generally softer with longer-travel than the suspension system on the equivalent utility model.

The steering on a sport ATV is responsive and designed for quick movements. Sport ATVs are not used for hauling items. In fact, manufacturers try to keep weight to a minimum to improve jumping and handling performance. Overall, sport ATVs are more difficult for the novice to learn how to ride on but provide more fun for the more experienced rider.

Now that we have described the two main categories of ATVs, there are other classifications that we can look at within those categories. For example, ATVs come in two-wheel drive and four-wheel drive. The difference is the same as in regular cars. Two-wheel drive means that only two of the wheels are actively driven by the engine, and four-wheel drive means that all four wheels are actively driven by the engine.

Four-wheel drive means more components and usually means a slightly heavier unit. However, four-wheel drive also means that the ATV can go almost anywhere in all

weather conditions. If you ride on only moderate terrain, than a two-wheel drive ATV is probably fine for you. However, a four-wheel drive ATV provides some security if you ride in more difficult and muddy or snowy terrains.

The other major classification that we can look at for ATVs is whether an ATV has a two- and or four-stroke engine. A four-stroke engine is what is in your car. It takes four strokes of the piston to complete one firing cycle of the engine. The four strokes are an intake stroke, a compression stroke, a combustion stroke, and an exhaust stroke. The spark plug only fires once every other revolution and there are intake and exhaust valves that are required to control the air flow of the individual strokes.

Two-stroke engines combine all four engine firing events into two strokes, as the name suggests. Also in a two-stroke engine, the intake and exhaust valves are not needed because the inlet and exhaust ports are in the walls of the combustion chamber. The spark plug on a two stroke engine fires on every stroke.

The main advantage of a two-stroke engine is that it has more power because it fires every revolution of the crank shaft. A two-stroke engine is also lighter and is less expensive than a four-stroke engine. A two-stroke engine also does not have an oil sump so the engine can be orientated in any direction.

However, there are disadvantages to a two-stroke engine. Because there is no dedicated lubrication system, the engine will have a faster wear rate and a shorter operating life on average than the equivalent four-stroke engine. A two-stroke engine also requires a special oil to be mixed with every tank of gas and is less fuel efficient than a four-stroke engine.

Hopefully, you can see that there is more to an all-terrain vehicle than a three or four wheeled vehicle that is designed for off-road usage. The new ATV rider has many options to consider when making there first purchase, and it is important to understand the basics before heading out to purchase your new ATV.