

Everything on Wheels





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Electric Pick-Up Trucks

American highways are no strangers to electric vehicles on roadways.

According to the Edison Electric Institute, 2018 marked the milestone of one million EVs in operation in the United States. While sedans have long been the favorite for vehicles that run without fuel, manufacturers are creating impressive pickup trucks to enter the electric market.

You are likely familiar with the announcement late last year that Tesla is developing a futuristic companion

to its sedan. The triangular-shaped truck will make its debut on highways beginning in 2021. According to the manufacturer, the new Cybertruck will drive up to 250 miles on a single charge and feature a tow rating of 7,500 pounds.

Tesla isn't the only automaker attempting to make a splash in the electric industry. Check out these other trucks that will soon make their debut.

RIVIAN R1T

The American auto builder advertises its R1T truck as the world's first "electric adventure vehicle," and it

backs up the claim. The machine is rated to tow up to 11,000 pounds, will travel 400 miles on a single charge and features an active chassis. The adjustable system is designed to accommodate driving on different terrains by sending instant power to each wheel.

Hitting the trails in off-road mode offers the ability to wade in water up to 3 feet deep. The adventures you can take in the R1T are unprecedented. It is anticipated to have a 2020 debut.

LORDSTOWN ENDURANCE

The startup manufacturer Lordstown is expected to debut its electric truck in 2021. The Endurance

is mainly intended to operate in fleets, but the automaker also plans to make it publicly available.

With four dedicated hub motors in each wheel, the Endurance will seamlessly handle roadways in muddy or slippery conditions. Its range time will exceed 250 miles per charge and the spacious cabin is expected to seat five individuals comfortably.

A main selling point from the automaker is that the vehicle features the fewest moving parts of any other automobile in existence. The advancement will result in lower maintenance costs, making it one of the most affordable trucks to own.

State-of-the-Art Wheelchairs

The wheelchair has long been a tool that those who are handicapped or injured rely on for transportation. The first known wheelchair was developed for King Phillip II of Spain in 1595.

The mobility aids have made significant strides thanks to new medical technology. Today, users can choose from fully automatic or manual operation to travel different terrains. Many models today can be enhanced with a variety of accessories, including special backs, seats, backpacks and gloves.

Whether you require a chair for regular use or need an enhanced unit for sporting or off-road navigation, cutting-edge wheelchairs are available for numerous purposes.

ADVANCED WHEELCHAIRS

Many cutting-edge wheelchairs are designed to enhance independence and broaden the range of where a user can travel. With the help of a stability wheel, many chairs can seamlessly guide a person down staircases and slopes while maintaining the safety of the operator.

You may also find units with settings that can elevate some-



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one inside to assist in obtaining out-of-reach items or sitting eye level of standing people.

FOR THE ATHLETE

Wheelchair sports are incredible events that encourage athleticism and companionship with other players. Games like basketball, tennis and racing create a tremendous physical workout while

adding a competitive flair. To excel in these activities, choosing a wheelchair that can handle the workload is crucial.

Most sporting models are lightweight, built with performance technology and feature efficient ergonomics. Many times, the chairs are not foldable because of the angle of the wheels. Athletes can sometimes customize their chair with more rugged tires or sus-

pension components.

POWER WHEELCHAIRS

Conditions like arthritis or muscle disorders can make operating a manual wheelchair impossible or tiring for a user. All-electric models can be a helpful tool that can lead to life-changing results. When searching for a power unit, you should consider the associated costs and maintenance that

are required for the most optimal performance. You must budget for unexpected repairs that may include wiring, batteries and a control panel.

Ask your local wheelchair manufacturer or distributor for more details on custom options, pricing and warranties. Make sure to do your homework before deciding on a model for you or your loved one.

Mobile Farming Irrigation

As farms and their operators are becoming more advanced, many irrigation systems are becoming permanent.

While these automated solutions can create a significant impact on the outcome of a crop, they can also be costly. A more affordable watering system is found in a pivot irrigation machine.

These machines have been a substantial part of farming for decades. In 1976, Scientific American deemed the center pivot irrigation system, “perhaps the most significant mechanical innovation in agriculture since the replacement of draft animals.” There are two standard setups that farmers rely on during their operations. A center pivot is anchored at one end and rotates around a fixed central point. A lateral system is unanchored and travels at a constant speed down a path.

PIVOT SYSTEMS

A center pivot effectively delivers water to large circular fields. The large machines equip sprinklers or spray nozzles spaced along an overhead pipe. With a water source like a well or a river, a connected pump sends water to a pivot point, which distributes the fluid throughout the system.

The self-propelled machines



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slowly rotate at an average speed of only two to three meters per minute. Most models feature a central control panel that range vastly between basic and enhanced features.

LATERAL SYSTEMS

Lateral systems, on the

other hand, travel straight across square and rectangular fields with the foundational support of high-strength steel systems.

Floating axles keep the system anchored to the ground, allowing these units to pull large hoses for maximum coverage and reach.

MODERN UPDATES

Of course, technology is advancing at such a rapid pace that even these classic machines have received exceptional updates. Many manufacturers offer pivots that include GPS and are controlled from a smartphone or tablet.

Operators can control several pivot functions, including starting/stopping, water pressure and speed changes. Some include a controller that measures and records the amounts of water applied, giving farmers a new perspective on how efficiently their crops are irrigated.

Fire Apparatus

If you or a loved one has ever relied on an emergency vehicle like a firetruck, you know the importance of its presence. Its high-speed response time can be the difference in life and death, or between a situation being under control and becoming disastrous.

The first steam-powered fire engine was launched in 1841. This vehicle helped quicken the response time of previously slow, somewhat ineffective firetrucks. The invention of the aerial ladder in 1868 really changed the game.

By 1910, firetrucks had become more motorized with multiple, taller ladders. Pumping systems were brought into the mix around the same time and have evolved into the advanced systems used today.

FIRETRUCK

A firetruck is considered an auxiliary vehicle used to transport firefighters, ladders, rescue gear and power tools from their station to the emergency. Many trucks are equipped with aerial ladders, which use the automobile as a base and extend upward.

It is typically the first machine to arrive at the scene



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of a fire. It is packed with equipment necessary to battle flames with water and chemical flame retardants.

TOOLS OF THE TRADE

Most of the tools that are commonly included on firetrucks are used for rescue situations. There are tools such as chainsaws, axes, first aid

equipment and protective gear. There is also, of course, fire-fighting equipment like water, hoses and specialized nozzles. The size and functionality of the fire truck make it a unique vehicle able to safely store different tools and materials.

WATER AT THE READY

The onboard water tank

serves as a reservoir, so firefighters can begin fighting the fire when they arrive. While the original source of water is spent, other responders connect to a hydrant for a steady supply of water.

A firetruck is also equipped with different hoses that are crucial for their own unique purposes.

According to the NFPA 1901 Regulation, each fire engine is required to carry this equipment:

- Fifteen feet of large soft sleeve hose or 20 feet of hard suction hose.
- Twelve hundred feet of 2.5-inch or larger supply hose.
- Four hundred feet of a 1.5-inch to 2-inch attack hose.

Refrigerated Trucks and Trailers

Tractor-trailers are crucial for shipping goods and supplies across America. Refrigerated trucks, or reefers, are an essential link in transporting temperature-sensitive products.

Because the distance between the source and an item's destination can be extreme, a specialized mode of transportation is crucial to preventing spoilage.

The Department of Global Studies and Geography reports a process called the cold chain is becoming increasingly important to the pharmaceutical, medical and food industries. Learn how the cold chain and the operators behind reefer trucks impact the transportation of goods from a geographical perspective.

Global: Supports the agricultural industry by allowing temperature-sensitive products to be shipped long distances. It also allows temperature-sensitive medicines to be distributed to any market in the world.

Regional: Enables the custom production capabilities of local facilities by offering a regional transportation footprint for business owners who would otherwise not be able to service multiple markets.

Local: Creates timely distri-



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bution to the consumer of perishable items, namely products produced by grocery stores, drug stores or restaurants.

TRUCKS PREVENT FOOD WASTE

According to the United States Department of Agriculture, food waste is esti-

mated at between 30 and 40 percent of the entire supply. Refrigerated trucks can reduce this waste by getting products to their destination spots before they begin to rot or lose quality.

These trucks have been instrumental in bringing a wider variety of goods to market than was available before

refrigerated trucks.

A GROWING MARKET

The reefer truck industry is growing as America relies more on ground transportation to deliver goods. A study conducted by Hexa Research shows the market is expected to continue its surge.

In 2017, the refrigerated

truck market was valued at \$6.36 billion and is expected to grow an additional 7.3% by 2025. The heavy commercial vehicle dominated the industry as they are best suited for long-distance travel.

Light commercial vehicles are expected to grow in demand as the preferred mode of transportation in cities.

Moving Trucks

Whether you are moving across the country or down the street, the moving truck has become an almost irreplaceable part of the relocation experience.

Professional services use their own moving trucks to help haul your possessions, while you can probably save a little money by renting a truck and packing up your belongings yourself.

There are various sizes of trucks to choose from when renting a truck yourself, so be sure to consider your options.

PROS AND CONS OF A MOVING TRUCK

Overall, the biggest advantage to using a moving truck for your relocation is its size. A moving truck makes sense if you're going to be hauling large items like couches, beds and appliances.

But with the size comes the fact that moving trucks can be a bit cumbersome to drive if you're not used to them.

WHAT TO LOOK FOR IF RENTING

Moving vehicles come in all shapes and sizes, but when choosing the best fit for you, ask a local expert for their advice. The sales professionals at your local truck rental facility should be able to help you



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choose a size that makes sense for your situation.

Many trucks or moving trailers are equipped with a ramp, so movers can enter and exit the vehicle with ease. While transporting expensive and bulky equipment like refrigerators

or furniture, a ramp can be a handy addition.

Another unique feature found on many moving trucks is a liftgate. It is equipped to the back of the vehicle and is typically controlled by a switch. When a mover brings your

items outside of the enclosed truck box, another expert can control the gate's movement.

DO YOUR RESEARCH

Before you sign on the dotted line for your rental, be sure to ask about which of the

above add-ons are included with your contract. Don't be afraid to negotiate for a better deal if your rental is a more basic model.

Call around to different truck rental companies before landing on a final contract.

Limousines

Limousines are a popular option to transport a group of family or friends to celebrate events. The elongated vehicles also are chosen for romantic evenings or executive travel.

According to the Transportation Alliance, today, more than 12,400 limo companies operate 126,000 vehicles.

Creating these specialty automobiles is a lengthy process that begins with purchasing a luxury vehicle from a high-end manufacturer. Once customization begins, the extended bodies are hand-crafted from materials like steel, aluminum and fiberglass. While the visual modifications are the most noticeable, they are certainly not the most important.

Limousines must be fitted with extended tailpipes to allow engine emissions to safely exit the vehicle. They are also equipped with longer fuel and brake lines to ensure the vehicle operates safely. When you're planning an event that requires the lavish presence of a limo, consider these tips from the Better Business Bureau before hiring a service.

ASK FOR PROOF OF INSURANCE

A company operating any



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fleet must be fully insured. When asking for proof, ensure the provider has more extensive coverage than a personal auto policy. Typically, this plan only covers their own vehicles, not the clients who hire its services.

CHECK REFERENCES

To find out more about the operation of a limo service, check online ratings from pre-

vious clientele. You can gain a valuable perspective on how the group treats its customers based on the experiences of others.

It's beneficial to choose a company that has extensive experience in the limousine industry. Their knowledge of the business should reflect on the safety of their vehicles and the commitment to customer care.

VERIFY IT PASSED INSPECTION

Commercial vehicles like limousines are held to strict safety standards from federal and state governments. Ensure the company takes inspections seriously and ask for proof that its fleet is up to date on approval from officials.

QUALITY CHAUFFEURS

In addition to ensuring the

vehicles are well-maintained, it's crucial to ensure that chauffeurs are trained and licensed to drive the unique car.

Don't be afraid to ask the provider about its training measures for drivers. Encourage your salesman to allow you to choose who chauffeurs you based on the particular experience the driver holds.