

Chapter 1 : Are We Going to Convert Our Classic Cars to Electric? | AxleAddict

Basically, electric conversion involves removing the entire internal combustion engine from a vehicle, installing an electric motor in its place, and also adding a large bank of batteries.

You can buy them already done, or you can do it yourself. This is my favorite part! I think I mentioned before that my mechanical aptitude is measured in negative numbers. There are people out there who actually LIKE doing this sort of thing. One of a kind vehicles. This can be a good thing. The nice part about a one-of-a-kind, homemade electric car conversion is that nobody else has one just like it. Well, one drawback to having a one-of-a-kind car is trying to find parts for it later. If the parts have to be custom built because your car is a prototype, or they quit making it, or whatever. You can take it into any tire or brake shop and get the ordinary things replaced. The parts are cheap, because there are dozens of them out on the road. The electric bits that will probably need replacing down the road are batteries, and one battery can certainly be interchanged with another. Motors and controllers for your electric car conversion can be purchased from companies that have been around for a long time and will continue to be around for a long time. The net result is that your car might be one of a kind. Would you drive an electric car conversion? I want to talk about some of the disadvantages of electric cars for a minute, now. No, electric car conversions are the same as gas-burners in many respects - the insurance company will welcome you with open arms. Your safety gear will work just fine. LATCH system, air bags, crumple zones. You can get tires, brakes, windshields, side-mirrors, et cetera at the local auto parts store, or auto glass store, or whatever. **DIS**advantages of an electric car conversion. So here they are: For those of us who are looking for electric cars to be lined up at the autoplex beside the Hummers, the conversion is bound to be a **HUGE** disappointment. You actually have to go looking for them. You might even have to have one built. They might cost a little less, depending, but the financing issue is a big one for most of us. I mean, how many people do you know with twenty thousand or so dollars cash laying around? The gas-guzzlers have the advantage of finance companies associated with their dealerships, and nearly anyone can get credit to buy a fume-farter. Meaning not every electric car conversion perform equally well. Well, the person who did your conversion, most likely. The best conversions are still small pickup trucks. Not everybody wants a pickup! Conversions need to be relatively light and aerodynamic. Sorry, Navigator; while still having the bone structure and storage space to support pounds of bulky batteries. External storage is safest in the event of a crash! Do the advantages outweigh the disadvantages?

Chapter 2 : Electric vehicle conversion - Wikipedia

Some of these companies offer complete electric car conversion kits to assist you in your DIY electric car conversion. If you buy a complete electric car conversion kit, everything you need will be delivered as a unit and you will receive complete instructions and plans to help you along the way. The starting point of any conversion is the donor car.

Contact Author Converting a Classic Car to Electric may be the future of owning a vehicle as governments clamp down on emission pumping diesel and petrol cars. In July the British Government announced plans to ban all internal combustion engine powered vehicles by with many experts predicting that electric battery powered vehicles will outsell diesel and petrol alternatives by ; and many other countries are starting to take the same approach. Whilst this may be excellent news for green minded people it will leave millions of combustion engined vehicles with little value and make them expensive to run. Converting a Classic Car to Electric may be the future There are already people taking their classic cars and replacing the engine for electric motors and battery packs. In the Discovery program Wheeler Dealers, engineer Ed China convert a Maserati Bi-Turbo to modern electric motors and a trunk full of high-powered batteries. The benefit of Converting a Classic Car to Electric Whilst there are the obvious disadvantages of Converting a Classic Car to Electric such as losing that glorious sound of the engine or the smell of an over-fueling motor, there are a number of benefits. Next there are the performance and reliable upgrades. Whilst some classic cars may have a great 4. Those people who own classic cars will already know about the hours of time spent tinkering under a bonnet adjusted timing, replacing rotor arms or finding the cause of no fuel to the carburetors. Electric motors deliver maximum torque from the beginning of the power delivery unlike petrol or diesel cars which have to hit a power band and then a gear change. There are also less moving parts in an electric system which assists with reliability. Then there is the attack on diesel powered cars which is going see diesel car values plummet. And finally, an electric conversation may eventually help to improve the value of the vehicle making it more attractive for those people looking for a green alternative in classic motoring. Of course the idea of ripping out the heart of a classic car sounds like a sin to purest, but like it or not, electric is the future. Governments around the world are under increasing pressure to reduce deadly diesel emissions in favour of electric power, especially from renewables; electric will be forced on people in the future. What about countries that charge road tax? This is currently an area of contention. Gas and diesel cars are rated on their engine emissions or engine size. Currently there are no plans for any government to offer road fund license relief on converted classic cars. This process would be extremely difficult to manage. It might also provide a loop hole to those who want to get around paying road tax by converting a vehicle to electric, only to convert is back to petrol once the new tax rating has been granted. How much does Converting a Classic Car to Electric cost? The cost of Converting a Classic Car to Electric varies depending on who you speak to, the technology you use and where you live. The disadvantages Whilst this article has waxed-lyrical about the future of electric classic cars there are disadvantages of an all electric vehicle. Range anxiety plays a big factor with some converted vehicles only managing 50 miles on a full charge. That can make planning a journey difficult especially with increased competition for charging points. Those planning to convert a car also need to be aware of the loss of space and weight increase that all those batteries will use to power the electric motor. Expect to lose storage space and increase the kerb weight of the vehicle. There are also a lot of issues surrounding the vehicle technology such as battery capacity and lifespan. Whilst electric is the future of motoring, there are still a lot of technological aspects that remain unanswered, in particular the batteries and charging times. Nevertheless electric conversions are the future; ignore at your peril.

Chapter 3 : How to Convert Your Motorcycle to Electric Power | It Still Runs

Usually, the person doing the conversion has a "donor vehicle" that will act as the platform for the conversion. Almost always, the donor vehicle is a normal gasoline-powered car that gets converted to electric.

Reading it may save you money and heartache down the road. If you are considering an EV conversion, chances are you have spent some time under the hood of a car and know the difference between a 6 point and a 12 point socket. There are EV conversion forums you can go to for help. Doing the work yourself will give you a special sense of satisfaction when you are done. Assuming you ever get done, that is. Talk to people who have done business with him previously. If you get into a dispute, the laws in your state may prevent you from getting your car back until you pay your bill in full, so make sure you are doing business with someone you trust. For most people, the vehicle they plan to convert is the one that is already sitting in the garage. Big, heavy cars need bigger, more powerful motors to make them go. Bigger motors need bigger batteries and more sophisticated control systems. In this case, bigger means more expensive. Converting a lb. Also, the Lincoln will need extra electrical power for the air conditioning, power steering, power windows and electric seats that came standard with the car from the factory. Better check your wallet before you dive into that project. Sporty, Luxury Or Economy Car? But the Tesla needs about horsepower to make that happen. Does your budget allow for that kind of performance? What about top speed? Are you content to cruise the back roads at speeds up to 60 mph or do you want to burn up the autobahn at mph? Once again, higher performance comes with higher costs. Are you looking to build a drag strip or autocross championship winning machine? The oldest expression in auto racing goes like this: How fast do you want to spend? Do You Want Regenerative Braking? But on the highway it is much less important. Being able to recapture some of the kinetic energy from your car when you slow down sounds like a great idea and it is. But it also requires sophisticated battery and motor control systems that will add to the cost of your project. The time to decide whether you need it is before you begin. Regenerative braking is not something you can easily add after the project is completed. Range and speed are closely connected. The further you want to go before you EV needs to be recharged, the more batteries you will need. Batteries are usually the most expensive component of an electric car, so adding more raises your costs considerably. How will you use your EV when it is done? Do you plan to recreate the entire trip from Chicago to LA via old Route 66? Or will you be content to potter around town, visit a few car shows, or just go for a Sunday drive? Adding more batteries once the project is finished is usually a lot more expensive than making provisions for them at the beginning. Conversions of old Volkswagen Beetles are pretty common. Conversions of a World War II era 2. If you will be using a donor car that is a popular conversion choice, chances are that special parts, motor brackets, wiring harnesses and the like are already available and will save you both money and time compared to fabricating them from scratch. Ordering off the shelf will cost considerably less money than hiring an engineer and a fabrication shop to build you a custom made doohickey or thingamajig. Another consideration is dealing with your local Registry of Motor Vehicles. If you bring them something truly unique that no one has ever seen before, they might balk at giving it a passing grade when it comes to getting it inspected. If you can show those gimlet eyed safety inspectors that a conversion like yours has been done before and blessed by officials in your state or elsewhere, that might tip the balance in favor of you getting the registration process completed successfully. Making batteries for electric cars is a new business for a lot of manufacturers. Israeli start-up company Better Place went bankrupt in and its inventory got sold off for pennies on the dollar. Occasionally you might come across a battery from a Nissan LEAF or Chevy Volt that was in a collision and ended up in a recycling yard. Of course, any battery from a damaged car or a bankrupt company will have no warranty, but if the price is right, it just might get your EV conversion process off to a good start and save you money that can be put to good use finishing the job in a timely fashion. Remember you will have to replace the charging system as well but after that you will have a car that has less weight and more power than it had when new. In a balanced battery, the cell with the largest capacity can be filled without overcharging a weaker cell and it can be emptied without over-discharging any other cell. How quickly will you need to recharge your EV when the conversion is done?

DOWNLOAD PDF HOW TO CONVERT TO AN ELECTRIC CAR

If you have a small 17 kWh battery, a basic 2. When it comes to range and recharging times, you get what you pay for. My old Irish grandfather had a rule:

Chapter 4 : Electric Car Conversion Kit (for beginners)

calendrierdelascience.com [Click here to learn how to convert your car to electricity for under \\$](#) Here you will find reviews on the top guides available on.

Cheap electric car conversion: Covered on this page: How the heck did we manage to do it so inexpensively? Modest performance goals Selling the left over bits and pieces ie. Detailed cost summary How the heck did we manage to do it so inexpensively? Each of these is a significant chunk of the cost of a conversion. The only new parts we bought were: We swapped all the best parts over to the blue car, and then sold everything else we could, mostly online: From the blue car we sold a nearly new gas tank, and engine block heater. You can see where this is going. We even sold its main drive motor to another EV builder because it was too big to fit in the Metro. Our net cost for the forklift parts: A recycler will gladly pay you for them, and that was the fate of more than a few of our worn out golf cart batteries. Our application is pending. For more info, see: [Vehicles Powered by Alternative Fuels](#) It all adds up: My new friend, the engineer at Delta Q: The forklift supply company gave us our first eight batteries for free. OK, so these were near-dead batteries, but they got us started. We were able to assemble a decent pack from these that could drive the car over 20 km on a charge, adequate for our needs. Is this an unrealistically cheap "one-off" conversion? It might seem easy to dismiss the ForkeSwift as an unrealistic one-off, assembled by obsessively cost-conscious builders. Since it was converted, two more highly affordable electric medium speed runabouts their motors also sourced from used forklifts have hit the streets. Which lends credence to the idea that electric drive does not have to be prohibitively expensive for the motivated tinkerer. Other inexpensive vehicles can be found in the EV Album.

Chapter 5 : 8 Classic American Cars Perfect for Electric Supercar Conversion

This book will show you how you can convert a gasoline-powered compact car or van to a clean-running, cheap-running electric car for a total materials cost of about \$1, This car will travel at speeds up to MPH, with a range between battery charges of at least 50 miles.

September 10, Photo credit: They are perhaps the most inefficient device that many of us use daily. We really should all be driving electric vehicles or none at all see this post. But, as you may have heard, there are no electric vehicles available today that resemble conventional cars or trucks. But wait -- there are still a couple ways to acquire a working electric car right now. One option is to buy a used vehicle that somebody else has converted to an electric vehicle. So may wish to take a plunge and do an electric conversion yourself. Basically, electric conversion involves removing the entire internal combustion engine from a vehicle, installing an electric motor in its place, and also adding a large bank of batteries. Your electric car will also be more reliable and require much less maintenance than a conventional one. Electric cars have a better resale value, and are more reliable overall because there are fewer parts to fail. Most of the components are solid-state electronics with no moving parts. The engine of an electric car has a virtually infinite lifespan -- the components will probably outlast the chassis. The only real expense is the batteries, which will need to be replaced about every 3 to 4 years. You can expect your converted vehicle to have a range of miles, a top speed of MPH, and good acceleration capabilities. It will take about hours to completely recharge the car. All of these factors will vary, based on the weight of the car you convert, and the type of engine and batteries you install. So, what type of car is the best candidate for an electric conversion? A light car lbs. You want a light vehicle, because heavy ones severely restrict the range of the electric engine. Automatic transmissions use up too much power because they require the engine to be constantly idling. Michael Brown, author of *Convert It*, recommends a car that is light and roomy like a Rabbit, Civic, Sentra, Escort or light pickup truck. The ideal donor car has a good body and interior, sound transmission, but a dead engine. For electric cars, the best type of driving is an area that is not too hilly and not too cold. Hills obviously put a larger burden on the engine, and thus reduce its range. Cold weather will also reduce performance, but there are many happy electric car owners who live in Canada and Alaska. There are two types of electric conversions kits available: Universal kits contain all the essential drive-system components but rely on the builder to create custom parts like battery racks or boxes. Custom kits include the entire drive system and battery racks and boxes, customized to suit a particular model. Here are some online forums about electric conversions: The internal combustion engine.

Chapter 6 : Doing a Conversion - Electric Car Conversion | HowStuffWorks

The controller is an important part of the electric car conversion. The controller is a solid-state electronic box that controls the power (speed) between the batteries and the motor. My controller is a Curtis amp peak PWM controller designed for use with series-wound motors.

Hide Yank out the engine. Install a motor, converter and batteries. And off you go in your electric car. There are issues to consider. Consumers eager to get behind the wheel of an electric car have experienced crushing disappointment for many years. But now, they may finally have their chance. Major auto companies—like Ford, Chevy and Nissan—plan to roll out the next generation of practical, affordable plug-in cars in or Niche players like Tesla, Fisker, and Miles are also hitting the market. An electric car conversion. But be prepared for major compromises to test the limits of your skepticism and impatience. In fact, Lough—who has been active in promoting electric cars for almost 30 years—is anguishing over the decision to convert now or wait it out. As the previous owner of five electric vehicles, Lough is well aware of the tradeoffs when it comes to driving range, warranties, battery replacements, and safety issues. His website provides extensive reference material and hands-on guidelines for backyard tinkerers doing EV conversions. The husband and wife team converts five or six vehicles per year for its customers. His customer list includes people from Texas to New Jersey. After speaking with Lough, Hazen and Moore, we identified these 7 key issues in your decision-making process. The gasoline engine will be entirely removed and replaced with a motor, controller, and lots of batteries. Moore recommends using an affordable compact car, like a Chevy Aveo, Geo Metro, or Honda Civic, if economics and efficiency are your top concern. If you are trying to maximize driving range, go with a small pickup that has room for all the batteries. A Chevy S10 or Ford Ranger are common choices. If you have your heart set on your exotic electric dream car, nearly any car can work. But each level of complexity and uniqueness requires more time and consideration—and therefore probably adds cost. The site is searchable by make, model, components, and location. Each entry provides the basics of how the vehicle was converted. In terms of various lead acid batteries, the group strongly recommends Absorbed Glass Mat AGM batteries over flooded cell, which require monitoring and maintenance. With lead acid batteries, expect overnight charging times of approximately six to eight hours. Given the limited energy and power of lead acid batteries, and rudimentary or non-existent battery management systems, a DC system is recommended. He believes going from DC to AC is like going from six-cylinder to an eight-cylinder gas car. Mike Casey of Mountain View, Cal. People are amazed when I give them a test drive. The seven new batteries right are bolted down with a metal rod, and then tucked away under a cover and the back seat. Steve Lough is very upfront with perspective EV owners who will accept nothing less than 50 or 60 miles of range. But for around town, on streets at 40 mph, you can go a long way. But how do you find a good one? Steve Lough recommends going through your friendly local electric auto association. Beyond that, common sense prevails. Check the background of the company owners, and get a long list of previous customers. Then call them, and try to arrange a time to see—and ride in—their work. The panel agrees that no kit is complete and comprehensive. Most do not include batteries or chargers. Basically, you are paying somebody a big premium to assemble the basic components into one package. As you can see, with a little commitment and a fair amount of cash, an electric car could be in your immediate future. Do not pass go. Go directly to emissions- and petroleum-free EV. More Electric Car Conversion Resources For more information about electric car conversions, check out these websites:

Chapter 7 : CARFAX Fahrzeughistorie für amerikanische Autos

If you're a budget-minded DIY electric converter, the choices are relatively straight forward. Any small car can be converted. The above-mentioned Aveo, Metro and Civic are good choices and conversion kits and knowledge abounds with many books and how-to's being published for each.

There are many Web sites that talk about the phenomenon and show you how to do it, where to get parts, etc. A typical conversion uses a DC controller and a DC motor. The person doing the conversion decides what voltage the system will run at -- typically anything between 96 volts and volts. The voltage decision controls how many batteries the car will need, and what sort of motor and controller the car will use. The most common motors and controllers used in home conversions come from the electric forklift industry. Usually, the person doing the conversion has a "donor vehicle" that will act as the platform for the conversion. Almost always, the donor vehicle is a normal gasoline-powered car that gets converted to electric. Most donor vehicles have a manual transmission. The person doing the conversion has a lot of choices when it comes to battery technology. The vast majority of home conversions use lead-acid batteries, and there are several different options: Marine deep-cycle lead-acid batteries These are available everywhere, including Wal-mart. Golf-cart batteries High-performance sealed batteries The batteries can have a flooded, gelled or AGM absorbed glass mat electrolyte. Flooded batteries tend to have the lowest cost but also the lowest peak power. Once the decisions about the motor, controller and batteries are made, the conversion can start. Here are the steps: Remove the engine, gas tank, exhaust system, clutch and perhaps the radiator from the donor vehicle. Some controllers have water-cooled transistors, while some are air-cooled. Attach an adapter plate to the transmission and mount the motor. The motor normally requires custom mounting brackets. Usually, the electric motor needs a reduction gear for maximum efficiency. The easiest way to create the gear reduction is to pin the existing manual transmission in first or second gear. It would save weight to create a custom reduction gear, but normally it is too expensive. Find space for, and build brackets to safely hold, all the batteries. Sealed batteries have the advantage that they can be turned on their sides and fitted into all sorts of nooks and crannies. Wire the batteries and motor to the controller with 00 gauge welding cable. If the car has power steering, wire up and mount an electric motor for the power steering pump. Install a small electric water heater for heat and plumb it into the existing heater core, or use a small ceramic electric space heater. If the car has power brakes, install a vacuum pump to operate the brake booster. Install a charging system. Install a DC-to-DC converter to power the accessory battery. Install some sort of volt meter to be able to detect state of charge in the battery pack. This volt meter replaces the gas gauge. Install potentiometers, hook them to the accelerator pedal and connect to the controller. Most home-brew electric cars using DC motors use the reverse gear built into the manual transmission. AC motors with advanced controllers simply run the motor in reverse and need a simple switch that sends a reverse signal to the controller. Depending on the conversion, you may need to install some sort of reverse switch and wire to the controller. This relay is how you turn the car "on" when you want to drive it. You need a relay that can carry hundreds of amps and that can break 96 to volts DC without holding an arc. Rewire the ignition switch so that it can turn on all the new equipment, including the contactor. The costs break down like this:

Chapter 8 : How To Convert A Car To Electric - DIY Conversion Kits | ASQ

For more information and advice on the process of using DIY conversion kits to transform your vehicle into an electric car, you can get in touch with the Australian Electric Vehicle Association (AEVA) near you.

Economy coupe[edit] Owing to its light weight and efficiency, a light vehicle can make an excellent choice, particularly if care is taken in component selection and placement. By converting a light vehicle it is possible to use a smaller motor, which both weighs and costs less than a larger motor. A lighter overall vehicle weight will reduce power consumption in start-and-stop traffic and increase range in many practical driving conditions. In the same way that a gasoline-powered economy car is cheaper and more efficient to run, an electric-powered economy car is as well. Compact sedan or coupe[edit] A compact sedan may be a better choice than a subcompact owing to better load capacity and more room for battery placement. Some commercial EV Conversions use vehicles in this size range. One example is a Honda Civic. Another example is a Mitsubishi Tredia where the rear batteries have been raised above the trunk floorspace, sealed, and externally vented. Exceeding the total design weight of the vehicle would be illegal in some states, and might result in cancellation by an insurance company. If it is less, one can just plug it into the utility grid to re-charge the batteries. The process is done by removing the nickel-metal hydride batteries , and installing different batteries, and a different battery management system. Full-size sedan[edit] Full-size sedans and minivans are generally considered to be poor candidates for EV conversion. As the suspension and tires are already operating close to the maximum permissible[clarification needed], it may be necessary to make substantial modifications in these areas. It may be easier to obtain upgraded suspension components for some smaller vehicles, if these are also typically used for sports racing particularly autocross. Starting with a heavy vehicle and adding batteries will result in poor performance in acceleration, handling, braking, and economy of operation. Sports car[edit] For a person interested in sports car performance and appearance, the creation of a satisfying conversion will likely lead to a number of difficulties in such details as battery disposition, as such vehicles generally have available space distributed in small volumes around the vehicle. This leads to complexity in securing and wiring batteries. These vehicles can offer stunning performance in the lower speed ranges owing to light weight and rear wheel drive, and may also offer good range due to their superior aerodynamics. The "Porsche is one of the more successful sports car conversions, as well as being one of the most popular. Once converted, it boasts better performance in range, acceleration and top speed than most other vehicles. Also, its low acquisition costs contributes to its popularity as a conversion candidate. Some manufacturers of conversion kits have made a kit specific to the Another popular sports car used for conversion is the "Toyota MR2. Reasons for its popularity are low weight before conversion, low cost to purchase the car, and available locations within the car to place the large batteries that most people use lead-acid and its derivative technologies. The later MR2 body style Mark 2 does not seem as popular, and as of March , there is only one known conversion. The battery pack consisted of 45 x 3. The tar weight of the final result was not much greater than the original specification, allowing the sports car to be engineering road-certified as a four-seat vehicle. The builders wanted to prove that an electric car conversion could also include other options such as power steering and air conditioning as is the norm for new electric vehicles , without sacrificing excess energy or comfort. Information on the successful Electric Starion conversion can be found on the web. The Bradley GT II as well as other VW-based kit cars are very popular conversion candidates due to their being inexpensive, extensive support groups as well as their simple sports car design. Availability of conversion kits for these cars are quite prevalent with commercial retail establishments that specialize in EV conversions. Light truck[edit] Light trucks are especially suitable for hobbyist conversion because it is easy to locate batteries remote from the passenger compartment and there is a good load handling capacity for the use of heavy batteries such as the flooded lead-acid batteries commonly used in golf carts. Light trucks also offer substantial utility in use simply because they are trucks. Even if a portion of the weight capacity is removed by the presence of batteries within or below the cargo bed, much or all of the spatial utility remains. A light truck is highly recommended as a first conversion effort because of the simplicity of

component layout. With proper battery placement the stability of a late production truck can be improved over the ICE version. While a number of suitable vehicles are available in pre models, the modern evolution of this type has become taller, heavier, bulkier and less efficient, and their excessive height makes under-bed battery placement essential to keep the center of gravity low enough for stability on curves. Other trucks – full size and most SUVs[edit] These are rarely converted due to their excessive weight, and aerodynamic inefficiencies. To make the situation worse, many modern trucks and SUVs continue to get bulkier, heavier, and their high stance means the height of the center of gravity leads to instability while making high speed turns, a distinct disadvantage if there is not enough room between the frame rails to enable low battery mounting. As a direct result, the payload carrying capacity and thus the GVWR of the vehicles goes down. Such a trait is not desirable because it limits the weight of the battery pack that can be carried, limiting the maximum battery-to-vehicle weight ratio that could be achieved for the vehicle when converted to an EV. Such considerations are important due to price, weight, and performance limitations of current battery technologies. For a given battery type, reducing the battery-to-vehicle weight ratio always results in reduced vehicle range per charge. However, despite these mostly unavoidable limitations, several SUVs and larger trucks have been successfully converted to electric power by hobbyists. The car is considered ideal for conversions because of its low used price and low weight due to the small size and resin fiber construction. The most economically effective development in this area involves the creation of hybrid electric buses mainly plug-in hybrids , well suited to this application owing to frequent stops and starts and effective energy recovery and release in this cycle. Another solution is the conversion to battery electric buses that follow the principle of replacing discharged batteries instead of recharging. A fleet of five late s Dennis Trident 2 open-top double-decker buses, operated for a local City Sightseeing contract, have been converted from diesel to electric power. Hotrod[edit] While this type of vehicle is usually made to be a " street-legal " performance machine, it may also be developed for occasional use as a drag racing vehicle. The leading vehicle in this field is the "Maniac Mazda" a Mazda RX-7 sports car converted from rotary engine to electric by Roderick Wilde. The short distance of the typical autocross requires less stored energy than most forms of motorsports. The Batt mobile in autocross in Queensland Australia Drag racer[edit] Intended only for specialized straight line quarter-mile acceleration racing this type of vehicle is used only "off road" at specialized " dragstrips ". High speed straight line racer[edit] For an example of a straight line racer see Buckeye Bullet Even more specialized than the drag racer, this is intended to obtain high speeds on long, straight, and flat raceways, such as the dry lake beds found in locations such as the Bonneville Salt Flats. Pound per pound, gasoline contains far more energy than even the most advanced of current batteries. An electric vehicle must be heavier or more efficient to run the same distance as its gasoline competitor. Endurance racing strategies include battery packs that can be changed quickly and " Dump charging " Custom chassis[edit] Suitable for a builder who is capable of constructing a kit car, with good abilities and equipment in machining and welding this can result in a unique vehicle. It is especially suitable for the construction of a lightweight vehicle that can offer exceptional performance. Many VW-based kit car companies have tube chassis ready to start with. A glider kit includes all components of a vehicle except the power train. Applications include electric vehicle show demonstrations, parades, parade floats, float towing, and eclectic off-road gatherings such as Burning Man. This vehicle is ideal for the beach where not prohibited and to promote tourist places but will usually require trailering to its operating site.

Chapter 9 : Convert Your Car to Electric: A How to Guide - CarsDirect

Because they have kits specific for several cars, and you can get an electric car conversion kit that is essentially plug and play; Canadian Electric Vehicles also has all the accessory parts you might need to get your electric car on the road, like power steering and power brake kits;

When I had the idea of converting my own car to electric, I had two goals in mind. Little by little, this idea was more and more real, asking other people, researching on the net and other countries where this was already a reality, I started the project of building an electric car. Choosing a donor car. The first step, once everything is clear, was to choose a cheap car and appropriate for the project. The best cars are old vehicles or classic cars. The reason for this is because they are not complex in their design and electronics are not playing an important role in the car functions. There is no need to be afraid at this point, nothing anyone can overcome reading a bit about the chosen car. Another important requirement is the car to be light in weight, less than 1000 Kg is more than adequate, and 800 Kg is ideal. The reason behind this is the resistance the car has because of the friction in the roads, the more resistance, the more electric energy it will need to drive. There are also other elements that a high speed affects the performance as the Aerodynamic coefficient, but this will leave it for the time being. And now, the motor. The motor is something you need to spend some time researching on it to take the correct decision. There are two kinds of motors: DC motors direct current and AC motors alternating current. The first ones are cheaper, more accessible in second hand markets or scrap yards, but they are less efficient. The second ones are more expensive; they weigh less and are more efficient. Then according to other technical aspects are synchronous motor and asynchronous, also other with permanent magnets, which supposed to be top of the list. I decided to go for an Slovenian 14 Kw motor, branded Letrika. I knew this provider at the electric car fair EVS27 in Motor electrico. Lets go to the motor controller. This is one of the main components, it is also one of the most expensive and it goes paired with the motor for two reasons: One, it is the one in charge to convert the batteries electric power to the correct voltage necessary for the motor, and the second, to regulate the speed of the motor, so the controller needs to be designed for it. As with the motor, there are DC controllers and AC controllers. Controllers are also classified according to the maximum current they can feed, the more current and voltage, the more powerful the motor will be. There are several brands as Brusa, Curtis, Sagem,.. I got a Curtis controller, medium range for AC motor, the Curtis controller. Most of the controllers are programmable, so you can adapt it to your own motor. You will have to study a bit about variety and features of the controller best suits you. And we get to the batteries, the queens. Batteries are the most important element in a electric vehicle, as they will define how much power and how much range the electric car will have. I hope one day this element will be the less important, but for the time being, this technology is more complex than we may think. There are several technologies in the market right now, but in practical terms we can talk about 3 or 4 types. Lets start by the cheap ones. The good news for a budget car, is that even dead, you can re-accondionate them or de-sulphate them. This is a delicate process as the content inside the batteries is sulphuric acid, so if you are a bit un-sure of what you are doing, better not to try. I have done it being very careful, and following all the security precautions and using protecting gloves, glasses and mask in an open environment, at the end you need to neutralize the acid with sodium bicarbonate before wasting it to the sink. You can also buy them to avoid all this hassle. They are very heavy, but can be charged with any standard charger. AGM or gel batteries. Those are deep cycle batteries, they are lead batteries with more efficient electrolyte gel. They are a bit more expensive but they are designed for electric cars. They are very heavy too, and there are manufacturer that assure up to 2000 cycles before losing charge capacity. The charger has to be specially design for gel batteries to follow a correct charge parameters for gel or AGM. This already more expensive, but they weight about half and they have double capacity. Those are the standard option for electric cars. They use to come in 3. The reason is that these batteries cannot be charged or discharged outside the recommended limits by the manufacturer. As an example, lithium cells can only be charged at a maximum of 4. They are the most expensive of all but also they have the more energy capacity. Enough batteries for now.. Another very important component is a current converter for high voltage to 12V. When we remove the

IC engine Internal combustion , one of the components that also disappears is the alternator, the one in charge of keep the battery always at the proper voltage in this case we could call it the auxiliary battery for lights, electric windows, radio, etc. No, still something important, the brakes. For the brakes, you need to supply the vacuum that the IC engine use to make for the brake booster. So we need to install a vacuum pump in order to replace the missing one in the IC engine. Then you need other small components, but equally important as a pedal accelerator, a contactor, some relays, fuses, etc. Those small components are as relevant as the big ones, because even with the motor and controller, with no cables, there is no use. Also, you need to see the high voltage requirements that the motor manufacturer recommends. Also the signal cables are also important in following no just the diameter but the isolation. Now the adventure starts! just install everything in the car. If you are interested in converting your car to electric and need more information, support, documentation or just someone who share your hobby, you can contact with us by clicking [here](#).