

Hi, my name is Peter Millward. I am an environmental activist, and have converted a number of my own cars to electric.

My manual will show you how to build your own electric car with detailed plans and pictures that any man or woman could follow.

This document is a preview/sample of my Electricity4Gas manual.

You can get a full copy of Electricity4Gas, by visiting the website below:

<http://holteboo15.holtebook9.hop.clickbank.net>

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Introduction

Dear Friend,

Congratulations on investing in the Electricity4Gas manual.

You are in a small group of people. Not many people are intelligent or informed enough to make such a good choice and save themselves money and help the environment at the same time.

You will soon be on your way to eliminating all gasoline costs, and reducing emissions.

The instructions and plans in this guide have worked previously for others and should work for you.

If this is all new to you it may seem complicated at first. We suggest you take your time, and re-read the guide a couple of times.

You always have the option of seeking assistance from a competent mechanic, or a mechanically minded friend, family member or acquaintance perhaps, should you need help with something.

There are a number of [text links](#) (that appear in blue) throughout this guide. If you are unfamiliar with the Internet, by clicking on these links, you will be taken to a web page. Please make sure you are connected to the Internet before clicking on the links.

We have created this manual to be a no-nonsense straight-to-the-point guide. We've kept the manual simple so it's easy to read, and we haven't 'padded' or added 'fluff' just to make it appear bigger.

Enjoy!

Peter Millward

Why should you convert your car to run on electricity?

There are many reasons to convert your car to electric, we could talk about it for hours, but since we're keeping it simple here are the three big reasons:

Environment – An electric vehicle has almost zero emissions. Current gasoline cars are big contributors to air pollution.

Cost – The cost of running your vehicle on electricity is very small in comparison to a vehicle that runs on gasoline. You will save hundreds or thousands of dollars a year, when you don't have to pay for gasoline.

Minimal maintenance – There is minimal maintenance involved in running an electric vehicle. Compare that to oil leaks, engine breakdowns, exhaust system problems etc with a gasoline car. You will save hundreds of dollars a year on maintenance costs.

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Electrical terminology

Below we explain some of the electrical terms used in this guide:

Wattage (watts) - A measure of the amount of work done by a certain amount of electric current (amperage) at a certain pressure (voltage).

Volts - a type of "pressure" that drives electrical charges through a circuit.

Amperage (Amps) - The rate of flow of electricity through wire.

Kilowatt Hour - The work performed by one kilowatt of electric power in one hour. An example is a 100-watt light bulb that is turned on for ten hours. The power rate would be $100 \times 10 = 1,000$ watt-hours or 1 Kilowatt hour.

Direct Current (DC) & Alternating Current (AC) -

Direct Current is self-explanatory. Alternating Current is an electric current that reverses direction, usually many times per second.

The most important difference between AC and DC power is that DC current can be stored in a battery while AC power cannot.

Common DC voltages are 12, 24 and 48.

Tools needed before you start

The first step is to have a work area. Make sure you have plenty of space to make the process as easy as possible.

There is grinding and fitting of metal involved so you should consider doing that kind of work outside.

The tools you may use include:

- A hoist



- Clamps and vice grips



- Cordless drill



- Jigsaw



- Small grinder



- A socket set



- Various wrenches (both imperial and metric measurement)



- Screw drivers



- Sand paper



- Welding equipment



- Work bench



Tips on obtaining these tools:

- Look out for sales – Look out for in-store-sales where you can buy inexpensive tools for your home workshop.
- Ask for tools as birthday & Christmas presents.
- Look for cheap tools at auctions and yard sales.
- You could rent these tools.
- You can ask some friends or family members to borrow their tools.

Further notes on welding

At some point you will need to weld battery holders and other parts.

An electric arc welder or mig welder that has at least 220 volts (and at least 100 amps of power output) should be used.



If you are not comfortable welding, you could ask someone you know with welding experience to help, or you could hire a professional to do it for you. If you choose to do it yourself, please remember that you are dealing with hot metal. Be very careful and be sure to wear protective clothing and welding mask.

Alternatively you can bolt everything together, but welding is preferred.

Parts list

Parts that will be used in making your electric car:

Amp meter shunt

Battery ends

Battery cables

Batteries

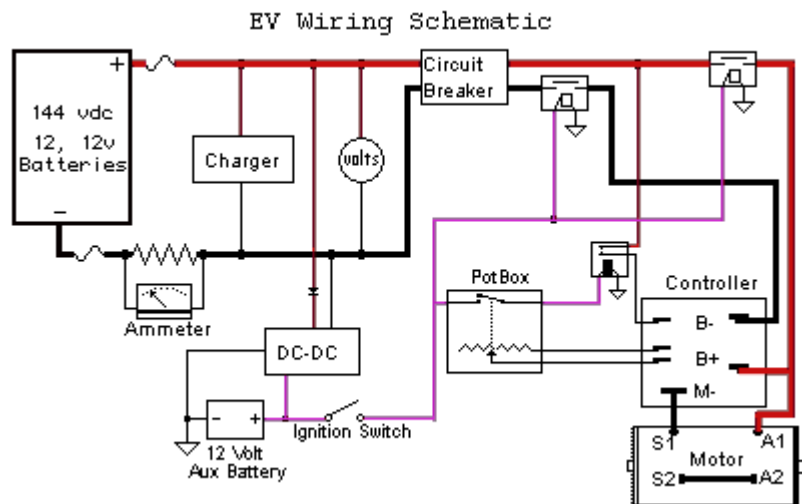
Battery shelves/holders (make your own)

Cable cutters

A crimping tool to install cable ends
Charger
DC-DC power supply
E-Meter or several digital meters
Fuses
Inertia switch
Lugs
Motor – AC or DC
Motor controller
Manual disconnect
Motor adaptor
Main contactor
Miscellaneous nuts and bolts
Vacuum pump (to bleed power brakes)
Throttle control box

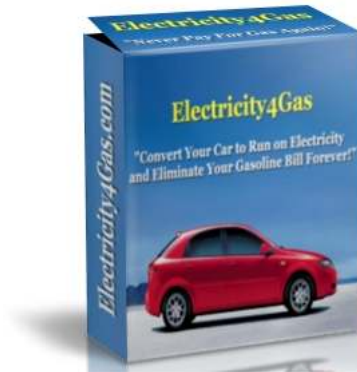
Electric Vehicle (EV) Wiring Diagram

Below is a diagram of the electrical circuit of an electric vehicle.



(Diagram is not drawn to scale)

Let's get started!



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