

The Volt Vette Project

Chapter 8

Do Not Mock my Mock-ups

The car is clean, the gasoline fumes are gone, time for the next challenge.

Where Do I Put All The Electric Stuff??

Here are the parts:

- 11" Diameter Electric Motor
- 14 Lead-Acid Batteries
- a Controller
- an onboard Battery Charger
- a DC to DC Converter
- and probably a power steering pump
- and maybe a new air conditioner.

Here is how the parts should work:

The battery charger plugs into the nearest 110-volt outlet and fills the batteries with electricity.

13 batteries are wired together to form a 156-volt battery pack.
(13x12=156)

The systems control computer, called simply The Controller, takes the electricity and meters it out to the motor.

The cars brake lights, taillights, and headlights run off of 12 volt battery number 14.

If that battery should fail on the road, the DC to DC converter steps in and steals a little electricity from the main battery pack, which it converts from 156 volts to 12, and sends it off to the lights.

Somewhat finally, space has to be found for the electric pump that will keep the power in the power steering.

I buy a bunch of battery size boxes and cut one down to the size of the charger. Next, I make a mock-up of the controller, and a mock-up of a battery box, out of plastic foam.

Many hours are spent trying to find the right space for everything.

We spend our time placing boxes here and there, discussing where things Could go and where things Should go.

The motor must be placed directly in line with the rear differential and the controller should be mounted as close to the motor as possible.

Why? Because at times a truly huge amount of electricity will move from the controller to the motor and that will require "OOOO" gauge copper cable, which I'm told is over an inch in diameter! It's not cheap, it's not light, and it's not easy to work with.



Now the batteries. As a general rule it's not a good plan to put all your batteries in one basket. You want spread the weight while keeping the batteries between the front and rear wheels. This is so you don't mess up the cars handling.

But Joyce does not want to give up any space from the small cargo area, so there goes a nice place for batteries.

3 ideas are on the table:

- 1. Put 8 batteries in the engine compartment and 5 in the gas tank bay.**
- 2. Put 4 batteries in front of the engine crossbeam, 3 in front of the electric motor, and 6 in the gas tank bay.**
- 3. First 7 same as above, one battery in the stereo amplifier compartment, 5 batteries plus battery charger in gas tank bay.**

Strong boxes will be needed to hold the heavy batteries in place.



The original Corvette battery is to be used as the 14th battery in the electric car and stay in its original compartment, as you can see in the lower right of this photo.

All of these ideas require further thought as I move on to the critical job of getting the electric motor mounted very securely and in exactly the right place. It's time for heavy metal.

