

Our Efiero project

It all started with "Hey Kim.. I found this Fiero on Craigs list!"



EFiero What did I get myself into???



- The car I just bought was in Springfield, IL
- If I don't buy it the car may get junked!!!
- The seller wasn't the original owner of the conversion???
- The motor may need brushes?
- I have an ugly 88 formula and this car looks clean

Conclusion? I can save this car!!!

Off to Springfield **we go!**

Michelle and I set off in a borrowed truck and trailer... halfway there the trailer has a flat!!!

What are the odds pulling off at the first exit and the quiet little town has the exact trailer tire and 2 Fieros in the back!



Arrival! There it is!... Now the story behind the sale



Notice that low low Illinois EV plate number!!!!



The history EFiero before before Kim & Michelle



Meet the original builder of the conversion Reid Peterson and the seller was the second owner post conversion

The seller felt way over his head and just wanted to enjoy an EV and his weekends again, so he bought a Nissan Leaf and a Jet ski

EFiero Version 1.0



Oh no!! What did I buy?

- (12) Exide XRF31-DAGM batteries with external charge balancers
- The batteries are physically balanced within the car
 - 4-batteries are under rear trunk space
 - 4-batteries located where the engine was located
 - 4-batteries are under front hood.
- DC electric motor is Advanced DC -FB14001
- Curtis 1231c-8601 PMC speed controller with two SW200 Series DC Contactors

The seller said that he used the car as a commuter car and that a friend looked at it and said that the motor may need new brushes which may be the reason for the range issue

First drive to work! 16.7 miles away !



It's just me and 840 pounds
of truck batteries!

Almost didn't make it 😞
But I made it!!!



Time for the hacks! EFiero V2 aka get the lead out

What is the most
cost - effective
lithium?

How do I monitor
The new
batteries?

How do I keep the
lithium batteries
balanced?

How do I charge
at a public car
charger?

How do I hack this all
together before the
weather gets cold?



An Ebay purchase later 2015 brand new Chevy volt batteries



3400 dollars and it
zapped me taking
them out of the box!

The Batteries are out...

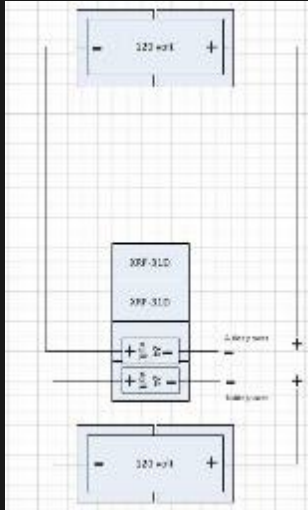
Now what???



Many
electrical
gremlins!!!!

Hard to believe these Things can move a car

Let's temp them in this way first



A way to charge this car

A way to know when it is charged





I have triple checked the wiring so
let's see what happens





Kind of a mess but I need the range!



less
electrical
gremlins!!!!
But they
are my
electrical
gremlins!!!!



Hmmmm I think everything is wired up!!!
Michelle, here is the fire extinguisher and press record!





A picture is worth a
thousand words

The first charge at a
public charger ever
for this car!





Failure on show day!!!

Part of the motor went bye bye

On the way to a VA hospital car show without warning I have total loss of power





But I just modernized the batteries!
Now what do I do????

AC or DC?

AC I gain regen and
I don't have
brushes that fail

5500 plus dollars
and it's a major
project!

DC A quick swap and I am
back on the road for a few
years



1200 dollars and less range!

Time for even more hacks!

EFiero V3 Break out the checkbook! DC to AC!

Who makes a 144
volt AC motor and
controller kit?

What is a better
way to mount the
batteries?

How do I adapt
the new motor

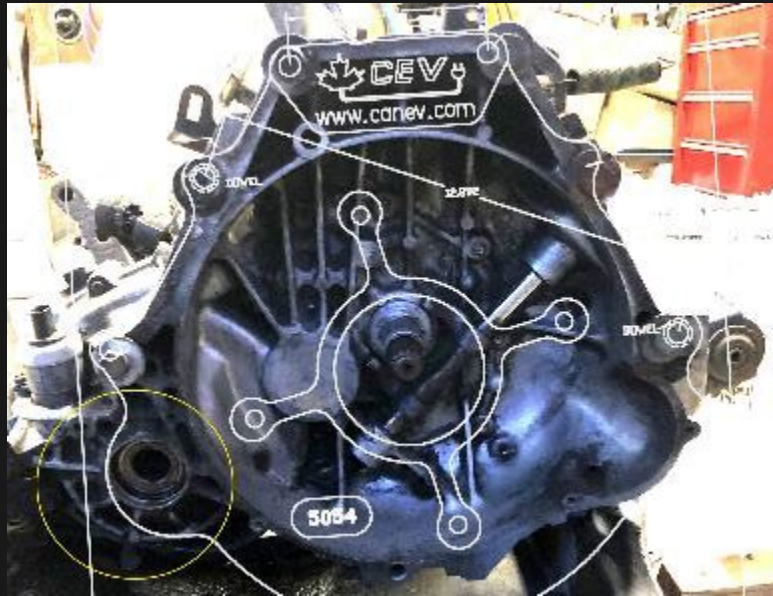
Michelle is
playing with
cardboard, sheet
metal and a
sheet metal
brake... uh oh

A Clutch is the
ultimate kill
switch

As long as I am
bleeding money what
else do I fix?







Out with the old



In with the new





Driving to the first show after rebuild
with Michelle in a chase vehicle!





All the original EV parts That got replaced VS kept

replaced

- Advance DC 144- volt motor
- 144 volt to 13.5 DC to DC converter
- Gast vacuum pump
- (12) 12 volt 100 amp hour batteries
- Traction power fuse
- Traction power fuse holder
- Misc 12 relays
- Misc 12 fuses
- Curtis 144 volt motor controller
- Misc control wiring
- All 4 tires
- Battery balance system

kept

- 2 old analog gauges on the dash
- Electric heater core
- Some of the angle iron structure in front



General improvements to the car

- New headliner
- New dome light assem.
- New LED replacements for all bulbs
- New side shaft seals on trans.
- New tires
- New tach guage
- New BMS system
- New lithium batteries
- New trunk
- New watt hour meter
- New vacuum pump for brakes
- New switches
- New motor mount configuration

- Rust repair on frame rails
- Engine subframe resurface
- New bushings
- New brake pads
- New Pontiac chevrons
- New 12 volt battery
- New sun visors
- New flashers
- New charge port
- Trunk lid release added
- Trunk engine bay lighting added
- Re added a clutch
- New battery boxes

Thanks!

Q and A ?



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Michelle Lonnecker
Fabrication: metal and
misc.

Kim Reck
Fabrication: metal and
electrical

