



# EEVC NEWSLETTER

Published by the Eastern Electric Vehicle Club

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Vol 30 No 7

JULY, 2010



Now affiliated with EAA

## RACING MY EV Alan Arrison

The first thing that comes to mind when thinking about a lead acid EV conversion is usually not “fast car.” This is because, like my VW Rabbit EV, most conversions are designed for maximum range and are

loaded to their gross weight limits with batteries. However, if designed as a race vehicle, EVs can be every bit as fast as their ICE counterparts. There is even a group, the National Electric Drag Racing Association or NEDRA, devoted to promoting EV racing. Check out their web site for a list of record holders in various EV categories and voltage divisions ([www.nedra.com](http://www.nedra.com)).

In 2009 I decided to take my EV to the annual Power of DC event in Hagerstown, MD. This event features both autocross and drag racing. I did pretty well in autocross, placing second in the conversion class. Not bad for a vehicle with 1300 pounds of batteries. Drag racing was a different story. It takes



*Alan Arrison's converted pickup ready to drag at the Atco Raceway in NJ.*

a lot of power to accelerate all that mass, power that golf cart batteries do not have. Another strike against me was that I have no clutch in my EV so fast shifts are out of the question. I tried one run staying in 3rd

gear and one in 4th and did 23 and 21 seconds respectively. Oh well, it was fun to get out on the drag strip.

When it was time for the 2010 Power of DC event I really didn't feel like taking my same slow EV down, so I decided to make some changes. I had twenty 12 Volt, 42 amp hour Energys Genesis AGM batteries sitting around that had come out of another EV. I removed the Trojan T125s and installed the Genesis batteries arranged in two strings of 120 volts. I could either run the strings in parallel for more current or in series for 240 volts. Well, talk about a difference! I had a whole new EV grin after going out for a test ride. I now had half the battery weight and plenty of amps avail-

able to take full advantage of the Zilla controller's 1000 amp capability.

I finished the changes to my EV the day before the 2010 event, so I had no time to practice driving with the new race configuration. In autocross I ended up doing an unintended 360 degree spinout on dry asphalt! I wish somebody had caught that on video. I finished 1st in the conversion class. Unfortunately the drag racing got rained out so I did not get to see how my EV would do in the quarter mile.

Fortunately there is an NHRA approved drag strip not far from my home in South Jersey. I called Ken Barbour to see if he would go with me to the track. Ken does quite a bit of racing with his ICE vehicles as well as his Mini-E. It turns out that the Mini-E had just been taken away by the BMW dealership as Ken's 1 year lease was up. So Ken drove his Corvette to the track along with EEVC President Ollie Perry who had been at Ken's documenting the Mini-E being taken away.

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Once at the track, I really had no idea what kind of times I would run. On the first run I stayed in 4th gear. As expected it was slow off the line but picked up speed well towards the end of the track for a 17.7 at 83 mph pass. I knew that if I stayed in 3rd gear it would get off the line faster but have nothing at the end, so I decided I would have to shift to 4th even if I lost some time and crunched the transmission. This worked pretty well and I ran a 16.73 at 82 mph pass. Not bad for my first time out and no clutch. As a comparison, Ken's Mini-E had done a 15.9 pass at this same track.

In the staging lanes I had lots of people



checking out my EV and asking questions. It was fun to see the look on people's faces as they looked at the batteries and DC motor. All in all it was a thrilling night. The question now is do I want to get caught up in this racing frenzy? As we all know, speed costs money, whether it is electric or gasoline. At this point I will put a clutch back in my EV and see how I do then. From there I'm not sure. I imagine that if I pound on the VW Rabbit drive train too much something is bound to break. Well, that's what racing is all about.

### THE DEPARTURE OF KEN BARBOUR'S MINI-E Oliver Perry



This past June 18th, 2010, EEVC Member Ken Barbour's lease on the full electric Mini-Cooper (above) came to an end.



As shown on the odometer of the Mini-E, Ken drove 23,136 miles over the year he leased the vehicle. Our Newsletter has featured articles regarding

this vehicle for the past year.



EEVC member Dan Monroe and Ken prepare to drape the fitting black cloth over the vehicle. Goodbye!



Trophies won at Hagerstown for Autocross and the Drag-strip, along with a bulletin board telling the Mini-E story, rest against the covered windshield.



Ken felt that it was suitable to spin the wheels one last time to celebrate the end of his lease and the great performance of the car. As noted from the smoked tires, the car had lots of torque, get up, and go. Few owners have pushed the pedal over this past test year as hard as Ken has, demonstrating what a great car BMW produced. About 500 of these vehicles were made, with 450 sent to the US for trial testing. 225 supposedly went to California and the rest to the New York City and New Jersey area.

With the exception of several trips from New Jersey to Hagerstown Maryland and to Penn State Ken never had to stop driving to charge. The car always got well over 100 miles per charge, range that was always more than adequate for his everyday driving use. Ken allowed everyone who wanted to do so to test drive the car. He brought it to many of our monthly meetings, to his friend's homes, and to the Atco Drag Strip for real life sit-in-the-seat testing.

Thanks, Ken, for paying the lease of more than \$800 a month so that all of us could experience the performance of the Mini-E. The driver that came to pick up the vehicle from Ken's driveway said that the car would be taken with other Mini-Es surrendered back to BMW to NYC and eventually from there to China. (I have received no confirmation

that the driver's understanding of the Mini-E's future was accurate.)

## A WORD ABOUT ANNE MOORE Oliver Perry



The outdoor display segment of the Nicholas Tesla celebration scheduled for Independence Mall in Philadelphia was canceled Saturday July 10th due to heavy rain. Several of us were scheduled to have an information table for the EEVC at the event. Meanwhile a physics teacher from the Westtown School (private Quaker) in West Chester, PA was having an old electronic equipment give away the same day. Due to the rainout I was able to leave Philadelphia for West Chester. While there I decided to stop in and visit Anne Moore. Anne and Tom Moore were officers of the EEVC for many years, responsible for mailing out our newsletters to all of you. As you may remember Tom passed away several years ago. Anne continues to fulfill the mailing duties that she once shared with Tom.

Anne and I had a great time discussing worldly affairs, conflict resolution, and peaceful ways of addressing life's problems. It was good to reflect on the spiritual values available in the traditional style Quaker meeting. We are moving too fast as a country and frequently become out of touch with our Creator and our fellowman. It is good to slow down and reflect from time to time. Anne and Tom for years have been pillars in the Quaker Meeting. Anne continues her participation in the local assembly. Her apartment complex is one with Quaker roots with a Quaker school on the grounds.

I took a picture of Anne next to her loom, which is quite an antique. Anne still produces marvelous productions from it. She passes on her best wishes to all of you and was happy to pose for a picture. For all of you newcomers you now have an update as to who our newsletter mailer is and what she looks like. We are fortunate to have officers like Anne Moore.

## IPOS AND OTHER HIGH FINANCE By California Pete



Shortly after the June Newsletter came out Tesla Motors announced its long-awaited initial stock offering, which the media immediately pronounced the first American auto-maker IPO since Ford in 1956. EEVC treasurer Tullio Falini, however, points out “Since 1956 there have been several car makers that went public (Jet Industries, US Electricar of MA, US Electric of CA, Renaissance Cars, Sebring Vanguard, and I’m sure I missed some).”

The IPO happened on June 29 (a lousy day for the markets), at \$17 per share, reaping more than \$226 million. The shares jumped 41 percent the first day, but in subsequent trading sessions fell as low as \$14.98 before closing Tuesday at \$18.23.

### Toyota-Tesla coming

Tesla recently announced that it plans to deliver to its new NUMMI partner Toyota a pair of prototype Toyotas fitted with Tesla drivetrains by the end of the month.

### China connection for ZAP

In other business news, Santa Rosa-based ZAP announced July 8 that it had merged with the Chinese Jonway Automobile Co. Ltd. in a \$60 million deal that will leave ZAP as 51 percent owner of Zap Jonway. “Its vehicles will be manufactured, along with Jonway’s lines of bikes and cars, at Jonway’s new, 3.6 million-square-foot plant located in China’s eastern coastal province of Zhejiang,” says the San Francisco *Chronicle*.

### Rockets’ red glare



On July 4 I went with my son and his family to view fireworks from the deck of the SS Jeremiah O’Brien, one of two surviving WWII Liberty

Ships in operating condition (out of more than 2700 built). While waiting for darkness to fall we toured parts of the ship and learned a lot about her. Built in 1943 (the same year as your editor), she made seven WWII voyages, from England and Northern Ireland to South America, India and Australia, as well as 11 crossing of the English Channel in support of the D-Day invasion. These days her travels are pretty much confined to San Francisco Bay and the area, although she’s still capable of crossing the ocean, as witnessed by her return to the Normandy coast in 1994 as part of the 50th anniversary commemoration of D-Day. The photo above is her aft 5-inch gun silhouetted against a burst of fireworks diffused by the San Francisco fog.

### Contamination

It’s well known that the waters of San Francisco Bay are badly contaminated with mercury, much of it traceable to mercury mines dug in the surrounding hills (mercury was used in extracting gold from ore), but it was a bit of a shock to find out that largemouth bass in many of the area’s reservoirs are also contaminated. As apex predators bass tend to concentrate heavy metals, but the puzzle is where is the mercury coming from? Theories range from naturally occurring to having blown in on the wind from coal-burning power plants in China.

Also on the contaminated-critters front, the *Los Angeles Times* reported on July 4 that officials had to close the Los Alamos Campground after a ground squirrel captured two weeks previous tested positive for *Yersinia Pestis* (aka plague).

Plague is endemic to a number of areas in the Western U.S., and seldom causes a problem, but it makes for good newspaper copy.

### A little civil disturbance

The national news has been following the trial of white BART policeman Johannes Mehserle, who on New Year’s Day 2009 was video-recorded shooting an unarmed African American man named Oscar Grant who was being held face down on a station platform in Oakland by Mehserle and several other officers. There were street demonstrations in Oakland at that time, and when Mehserle’s trial in Los Angeles was nearing its verdict

there were predictions of chaos in Oakland regardless of the outcome.

Police from 15 Bay Area law-enforcement agencies and community leaders were out in force on July 8 when the verdict of involuntary manslaughter was announced (apparently the jury believed Mehserle's claim that he reached for his Taser in an effort to subdue Grant and inadvertently drew his pistol), and, at least until darkness fell, everything was pretty orderly. When it got dark there were several instances of vandalism and looting, but it turned out that a three quarters of the 78 people who were arrested were from out of town; there were also reports that many of them were white anarchists wearing black clothing and hoods.

So maybe long-suffering Oakland doesn't look so bad.

### **Your monthly quantum of nuttiness**

No column about California would be complete without mention of at least a few examples of our local brand of silliness, so here's this month's installment:

- Shortly after 9/11 three men painted a 35-foot American flag on a hillside near I-680. A few days before July 4 this year Caltrans declared it graffiti and covered it with gray paint. There was an immediate kerfuffle, followed by an apology from the governor. The flag has since been repainted, and Caltrans promises to leave it alone, at least for now.

- The colorful Bay-to-Breakers race (mentioned previously in these pages) lost its sponsorship from insurance and financial giant ING "after five years of blottoed boozers, bare-naked runners and increasingly bad press," according to the *Chronicle*. But not to fear: race organizers have announced that the event will go on as scheduled next May, with one exception: no alcohol will be permitted. How they plan to enforce that is anybody's guess, but perhaps it will help. Sort of reminds one of the crackdown on booze at the Philadelphia Mummers Parade; up until that time one could have assumed that any participant found sober at that event would have been asked to leave.

- On July 8 it was reported that San Francisco's Commission of Animal Control and Welfare was considering an ordinance making it illegal to sell live animals in pet stores.

"That includes dogs, cats, hamsters, mice, rats, chinchillas, guinea pigs, birds, snakes, lizards and nearly every other critter, or, as the commission calls them, companion animals," according to the *Chronicle*. Sales of live fish, it seems, would be still be allowed. Following much outcry the proposal has been deferred.

## **NEWS UPDATE**

### **Wheego Whip goes on sale**



On June 14 Wheego Electric Cars announced that they are taking reservations for the all-electric Wheego Whip LiFe car on

their website at [www.wheego.net](http://www.wheego.net). The car holds two people, can go 65 mph, and lists a range of about 100 miles. It retails for \$32,995, but qualifies for a \$7500 Federal tax credit, dropping the net price to under \$26,000. States such as California and Georgia offer State tax credits or rebates up to \$5000 to further reduce the net price.

### **Toshiba makes EV parts deals**

On July 2 Toshiba Corp. announced a deal with Mitsubishi Motors Corp. for the development of EV batteries. Production is set to begin next year in northern Japan. This follows the June 22 announcement that Toshiba will begin building motors for EVs at a plant in Houston, TX, under a contract with Ford.

### **It may be hard to get a Volt**

On July 7 CNN Money reported that "GM plans to build only 10,000 Volts in 2011," or about 835 a month, so it may be tough to get one. Production should triple in 2011.

### **Solar plane makes 26-hour flight**

CNN reports that the Solar Impulse made a 26-hour test flight on July 8, having flown at altitudes ranging from 28,000 feet (8,500 meters) to 4,500 feet (1500 meters). The hope is to fly it around the world in 2012.

### **GE introduces smart grid-compatible EV charger**

On July 13 General Electric announced the GE WattStation EV charger. It is designed to speed charging and, using smart grid technology, allows utility companies to manage the impact of EVs on the grid. The unit decreases electric vehicle charging time from 12-18 hours to as little as four to eight hours compared to standard charging "level 1," assuming a full-cycle charge for a 24 kWh battery. The charger will be commercially available globally in 2011.

### **ADVERTISEMENTS**

\*\*\* For Sale \*\*\*

1987 Nissan 2 door, 5 speed transmission with clutch, little to no rust.

90 volt system with 15 Deka 125 6-V batteries less than one year old with two to three thousand miles on them

8 inch Advance DC motor

Curtis Controller

Will have DC to DC converter

On board 110 volt charger

Top speed on the level 70 mph

Range has been about 50 miles

Asking \$5000. Call Jessie at 508-468-5463 or David Robie at 781-335-5322.

### **COMING EVENTS**

#### **Plug-in Vehicle and Infrastructure Community Readiness Workshop**

July 22, Washington, DC. To attend, register for the Webcast by July 21 at [www.tvworldwide.com/events/doi/100722/default.cfm](http://www.tvworldwide.com/events/doi/100722/default.cfm)

#### **Plug-In 2010 Conference & Exposition**

July 26-29, San Jose, CA. Go to <http://plug-in2010.com>

#### **Fundamentals of Hybrid Electric Vehicles**

Aug 2-4, Troy, MI. For information go to [www.sae.org/pdevent/C0511](http://www.sae.org/pdevent/C0511)

#### **Introduction to Hybrid and Electric Vehicle Battery Systems**

Aug 5-6, Troy, MI. Go to [www.sae.org/pdevent/C0626](http://www.sae.org/pdevent/C0626)

#### **2010 American Renewable Energy Day**

Aug 19-22, Aspen, CO. For information go to [www.areday.net/](http://www.areday.net/)

### **2010 IEEE Vehicle Power and Propulsion Conference (VPPC)**

Sep. 1-3, Lille, France. For info go to <http://vppc2010.univ-lille1.fr>

### **SAE 2010 International Vehicle Battery Summit**

1-3 Sep 1-3, Shanghai. For information go to [www.sae.org/events/battery](http://www.sae.org/events/battery)

### **63rd International Motor Show 2010**

Sept.23-30, Hanover, Germany. Go to [www.iaa.de/index.php?id=besucher&L=1](http://www.iaa.de/index.php?id=besucher&L=1)

### **Altwheels Fleet Day**

Sept 27, Framingham, MA. For information go to [www.altwheels.org](http://www.altwheels.org).

### **SAE Convergence 2010**

Oct 19-20, Detroit, MI. For info go to [www.sae.org/convergence](http://www.sae.org/convergence)

### **eCarTec München**

Oct 19 - 21, Munich, Germany. Go to [www.ecartec.eu/](http://www.ecartec.eu/)

### **Southern Electric Vehicle Expo**

Oct 29-31, Asheville, NC. Go to [http://sevexpo.com/e107\\_plugins/calendar\\_menu/event.php?1288378800.event.1](http://sevexpo.com/e107_plugins/calendar_menu/event.php?1288378800.event.1)

### **EVS25**

Nov 5-9, Shenzhen, China. Go to [www.evs25.org/event/2009ddc-en/index.html](http://www.evs25.org/event/2009ddc-en/index.html)

### **Green Truck Summit**

March 7-10, 2011, Indianapolis, IN. Contact Susan Romeo, [sromeo@calstart.org](mailto:sromeo@calstart.org), 626-744-5600

### **Solar 2011**

May 16-21, Raleigh, NC. For info go to [http://www.ases.org/index.php?option=com\\_content&view=article&id=18&Itemid=147](http://www.ases.org/index.php?option=com_content&view=article&id=18&Itemid=147)

### **11th Challenge Bibendum**

May 18-22, 2011, Berlin, Germany. Go to [www.challengebibendum/en](http://www.challengebibendum/en)

### **MEETING SCHEDULE**

Meetings are held in Room 49, Plymouth-Whitemarsh High School, 201 East Germantown Pike in Plymouth Meeting, PA, and begin at 7:00 p.m. Note that here are no July or August meetings.

Sept 8

Oct 13

Nov 10