

## FVAAA NEWSLETTER FOR 2003

An Independent Not-For-Profit Corporation associated with the National Electric Auto Association

**NEXT MEETING: Friday, March 21<sup>th</sup> at 8:00 PM in the Triton INDUSTRIAL CAREERS BUILDING, (East Campus), and Room 106**

**DISCUSSION TOPICS: 1. Routine business. 2. Seminar rehearsal presentation and critique**

### MEMBERSHIP INFORMATION

Any person interested in electric cars is welcome to join the Fox Valley Electric Auto Association. The cost for a full year's dues is \$ 20 which will entitle members to receive our monthly Newsletter that contains useful information about electric car conversions, construction, news, policies, and events. Membership is not required to attend our meetings. Dues for NEW members joining in April will be \$14.

To obtain information about the FVEAA you may:  
Visit the FVEAA Website at [www.fveaa.org](http://www.fveaa.org)

Or contact FVEAA President William H. Shafer  
1522 Clinton Place  
River Forest, IL 60305-1208  
(708) 771-5202  
E-Mail [Assessorbill@cs.com](mailto:Assessorbill@cs.com)

### PRESEZ

Note the changes that have been made for the March 21<sup>st</sup> meeting. First: The meeting will start a half-hour later (8:00 PM). This will allow more "Friday night driving time" to get to the meeting. I have noted members arriving about 8 PM, muttering about the horrendous traffic congestion. Second: We will meet in Room 106. This is the auditorium in the Industrial Careers Building that has more seats than 108 and is arranged theater-style, a better venue for our Seminar rehearsal.

After the routine business is finished the Seminar will be presented. I expect *constructive* comments from those attending. The print media has received a press release about the Seminar and invited to attend the rehearsal.

There will be no April meeting on April 18<sup>th</sup>. This is the start of the Easter Observance. The Seminar will be on Earth Day, April 26<sup>th</sup>. I ask that all members who can to bring their cars the Seminar for exhibition.

Our website now has the Seminar Registration up and running. Thanks to Member Doug Mather for all his work in setting it up. You can log on to [www.fveaa.org](http://www.fveaa.org) for a look.

The regular issue schedule for the monthly Newsletter will remain the same. Fourteen members have sent e-mails to me indicating that the e-mail version adequate for their requirements. This reduces our cost. The 2003 Roster will be included for Paid Members in the mailing of this Newsletter. The e-mail version will not contain this document. All paid members will receive for this time only will receive both versions.

I want to particularly thank Member John Emde for hosting our February meeting at his new shop. I received many comments that it was really a good meeting.

BILL

## MINUTES OF THE FEBRUARY 22<sup>nd</sup> MEETING

President Shafer called the meeting at John Emcee's new shop in Lemon to Order at 11 AM. Twenty members and three guests attended. The January meeting minutes were approved as Published. Treasurer Corel reported \$ 2877.18 in the Checking amount and no change in the Savings account. His report was accepted.

Member Kevin Zak reported on the World of Wheels event. The Net Gain Dragster, *Bad Amplitude* received two awards, including the best-engineered vehicle at the Show. The Triton *Ranger conversion* received a third-place award in the small pickup category. This was quite an achievement considering the rest of the 40 entries were *SHOW CARS* with lots of chrome and gorgeous paint finishes. Ray Oviyach brought the plaque to the meeting. It will be presented to Triton.

President Shafer noted that long-time member Al Brinkmeyer was at this meeting. He was one of the original FVEAA members. Al has been retired for 20 years and does not drive at night.

President Shafer reported that our affiliation with the National EAA is complete. He thanked FVEAA members who also became EAA Members in order for us to qualify for affiliation. He expects good things to happen from this move. A future issue of *Current Events*, the bi-monthly magazine of the EAA, will have a story about the FVEAA affiliation.

Member Matt Remick was asked to say something about a design project he is involved with. His group plans to develop a different type of electric scooter useful for local shopping trips. It will feature fore and aft parcel compartments with remotely controlled locking devices that will provide security for grocery bag - sized packages. Members offered their comments about his scooter design.

Members John Emde and Ed Meyer presented a demonstration of motor balancing using Ed's Vibromatic equipment. The test was conducted on Paul Harris' Baldor motor. It had attached the clutch assembly and the test balanced the entire assembly. There were many questions and comments.

President Shafer thanked John for arranging the session and providing the luncheon.

The meeting was adjourned at 11:30.

From Bill Shafer's notes.

## From Other EV Newsletters and Articles Affecting Electric Vehicles

**The DEVC Newsletter, from the Denver Group**, in their February Newsletter report the Federal Government is offering tax credits on Honda and Toyota hybrid vehicles ranging from \$ 1,815 to \$ 3929. There are no credits for conversion of cars to electric power. Is this fair?

Editor Dave Stensland reports he now has 14,000 miles accumulated on his pickup conversion.

**From Other EV Newsletters and Articles Affecting Electric Vehicles – Continued**

**EEVC, the Eastern Group**, in their February Newsletter has an article asking, "Is the Hydrogen Economy Just A Lot Gas? According to a study by Eliasson & Bossel hydrogen has an energy density of 144 MJ/kg (Mega Joules per kilogram and methane has 44 MJ/kg. On a volume basis hydrogen contains 11.7 MG/kg and methane 36.5. With a gaseous product it is *volume* that matters. They note that water electrolysis is about 75% efficient. Reforming methane is 85%. They also note that compressing hydrogen to 2000 psi loses about 10% of its energy content. Storage as a cryogenic liquid results in a 30% loss. I don't relish the prospect of sharing the Interstate with a 40-ton truck transporting hydrogen from a central production facility to a distributing facility 125 miles away with a tank pressurized to 3000 psi. EEVC concludes it would be more energy-efficient to use methanol.

The issue has the next installment about the life of Charles Steinmetz.

**The VEVA (Vancouver Group)** February Newsletter had articles of local interest.

**EV NEWS** stated their December 2002 Newsletter is their final issue. It is financially impossible to continue now that Detroit has abandoned electric cars in favor of fuel cell vehicles and hybrids. We are saddened by this development and realize that EV interest is right back where it started 30 years ago, in the hands of the hobbyist.

**Segway facing sidewalk bans.** Chicago Tribune, January 26, 2003, Page 3 (Transportation Section). San Francisco late last year banned the use of the Segway transporter from using the sidewalks. It is the first major city to take this action. Illinois has left the decision up to local governmental units. The Amazon website auction firm reports that the Segway has been one of its hottest sellers.

**The winter 2003 winter issue of the *Green Fleet News***, a publication of the Illinois EPA, reports that the Alternate Fuels Rebate Program continues into 2003. Future funding has been changed from the State General Revenue Fund to other sources such as grants, foundations, and corporate donations. Money is available to pay for some additional conversions. To check the fund status call (217) 557-1441.

**Battery Charger For Sale**

Member Al Wagner last year converted a British *Berkeley* small car to electric with a 36-volt system. He later upgraded it to 42 volts by adding the last battery the car would accommodate. He is offering his \$ 400 battery charger for sale – Asking \$ 300. The charger is used for older golf carts. It is a Quickcharge QPET36v/25amps.

Al Wagner  
[Berkeleydriver@aol.com](mailto:Berkeleydriver@aol.com) or (630) 830-8913

Member Tim Moore sent an e-mail to Rick Lane, the Editor of the Ottawa Newsletter. Tim thought that Rick's reply about battery heating should be included in a FVEAA future Newsletter. I agree:

**Keep your batteries out of the cold.**

By Rick Lane (REV Consultants Ltd. – Ottawa. (613) 722-9939. February 4<sup>th</sup>, 2003

Hi Timothy. I regularly read the FVEAA Newsletter as I exchange it for the EV Circuit Newsletter. Your inquiry about battery insulation should have been asked before you built your car. It is like you have food on a shelf and you want it in fridge.

It is a well-known fact that lead-acid batteries do not perform well in the cold. Because of this some EV skeptics have been saying that they are just not practical outside of California. This doesn't have to be case. When its cold people put on extra clothes (insulation). If the same is done to the batteries they too will begin to perform despite the cold.

At REV Consultants is located in Ottawa, Canada. It has become a standard design feature to build insulated and heated battery boxes in all of the vehicles here converted to electric power. As a result year round operation of electric vehicles has become commonplace at well below freezing temperatures. The insulating materials are all common building materials and the heating system uses common automotive heating blankets available from most automotive supply stores.

The trick is to insulate and retain enough heat around the batteries to keep them at their optimum operating temperature of 75 degrees F. This is accomplished by first building a sealed battery compartment. Keep in mind that proper ventilation is very important as lead acid batteries do give off hydrogen gas when charging.

The box consists of an outer enclosure made of metal or plastic, and an inner lining of at about 1 inch of closed cell Styrofoam insulation. This material is unaffected by battery acid. Ventilation holes should be placed in the bottom of the box for air to enter and at the highest point for gas to exit. If the box is in the passenger area it is a good idea to provide ducting to conduct the gas to the outside. (Editor's note – this applies to *flooded* batteries. Sealed batteries such as Optima release hydrogen only on severe overcharge.

All batteries generate heat on their own when being discharged. ( $I^2 R$  loss). Sometimes this is sufficient if the weather isn't too cold but in Canada it is always necessary to add heat. In general about 80 watts of heat applied for an 8-10 hour period is sufficient to keep 6 batteries warm. Automotive blankets come in various ratings; most common are 50 and 80-watt sizes. The battery blankets are placed in a slot under the insulation. If the heaters are to be left on continuously then a thermostat is added. The heaters should be separately energized from the AC power source supplying the charger.

In use the typical vehicle would have 300 watts of heaters installed and they use about 1.5 kWh of energy daily. The payback is an electric vehicle that will perform almost the same, as it will in the summer.

**Additional comments by Bill Shafer**

As Rick stated, the standard temperature for lead acid batteries is 75° F (California temperatures). He has described how the Canadians cope with the cold weather. At temperatures above 75° F the electrochemical reaction in the battery speeds up. This raises the terminal voltage, improves torque, and makes for a happy driver. But reduced battery life is the price for this. For those living in moderate temperatures it is important to provide forced ventilation for each enclosed battery box during the summer. A small 12-volt muffin fan on each box should do the job. Be sure to provide holes in the box to draw in cooling air. Each battery delivering 200 amps produces 80 watts of heat.