



FVEEA NEWSLETTER

DECEMBER 1994

President	Vice President & Editor	Secretary	Treasurer & Librarian	Director	Director
Ken Woods 1264 Harvest Court Naperville, IL 60564-8956 (708) 420-1118	Bill Shafer 308 South East Ave Oak Park, IL 60302-3512 (708) 383-0186	Dave Aarvold 915 Oak Street DeKalb, IL 60115-3470	Dale Corel 595 North Gatshead Elk Grove, IL 60007-3433	John Emde 6541 Fairmount Downers Grove, IL 60156-2919	John Stockberger 2 S 643 Nelson Lake Rd Batavia, IL 60510-9762

NEXT MEETING - December 16 at 7:30 PM
 Will be in Room 1048 in the Student Resource Center at
 the College of DuPage, southeast corner of 22nd Street & Lambert Road

DISCUSSION TOPICS - Open topics meeting will discuss subjects brought up by those attending. Also, annual election of officers

MEMBERSHIP INFORMATION

Any person interested in electric cars is welcome to join the FVEEA. The cost for a full year's dues is \$15. This will entitle the member to receive our monthly Newsletter that contains useful information about electric car components, conversion techniques, policies, and events. Dues for new members or present members renewing their memberships for 1995 is \$ 15.00. Application form is included in this Newsletter issue.

FOX VALLEY ELECTRIC AUTO ASSOCIATION
 308 South East Avenue
 Oak Park, IL 60302-3512

FIRST CLASS



Dale Corel
 595 Gatshead North
 Elk Grove Village IL 60007 -3433

ADDRESS CORRECTION REQUESTED



FVEAA 1995 MEMBERSHIP APPLICATION
PLEASE PRINT

NAME _____ DATE _____

ADDRESS _____ PHONE (____) _____

CITY _____ STATE _____ ZIP _____ SUBZIP _____

What is your principal interest(s) in electric cars?
 General
 I would like to convert an EV.
 I own an EV. Make? _____ Year acquired _____
 EV Public Policy
 Other (Please Describe) _____

LIST BELOW YOUR COMMENTS, QUESTIONS OR SUGGESTED EV SUBJECTS FOR DISCUSSION

FVEAA membership year begins November 1. The initial dues for new members joining at any other time is prorated according to the following schedule:

Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct
\$ 15.00	13.75	12.50	11.25	10.00	8.75	7.50	6.25	5.00	3.75	2.50	1.25

Make your check payable to the FVEAA , and mail to:

DALE COREL, FVEAA TREASURER
595 GATES HEAD NORTH
ELK GROVE , IL 60007

MINUTES OF 11/18/94 MEETING

The meeting at the College of DuPage was called to order by President Woods at 7:33. Twenty one members and one guest attended. The minutes were approved with one correction by Member Clark to read" the charger **REPAIR TO CORRECT OVERHEATING WAS BY OHBA.**" Treasurer Corel report \$ 523.63 in the checking and \$ 2106.62 in the savings account was accepted.

President Woods reported the following report on the cooperative construction survey published in October::

1. Support the project? - Yes 100%
2. Seek community college? - Yes 90%
3. Buy \$ 100 share? - Yes 90%
4. Buy \$2 00 share? - Yes 63%
5. Shares limited to members? - Yes 44%
7. Prefer raffle? - Yes 17%
8. Prefer auction? - Yes 89%
9. Extra \$ to FVEAA? - Yes 38%
- 10 Bid on car? - Yes 28%
11. Willing to bid _\$? Average \$ 7900.
- 12 Help with construction? - Yes 80%
- 13 Worker credits? - Yes 80%
- 14 Hourly Rate? - Average \$ 5.30

Members Woods and Shafer reported on testimony given on energy policy during a Energy Department hearing. A text of the document appears in this newsletter.

President Woods noted that Newton's widow needs additional help to finish clearing out the basement. Several members agreed to assist.

President Woods has sent a letter to Triton regarding the return of the FVEAA Fiat. The college agreed to return the car. Woods will arrange to have the car towed to Tohurs Alcon's place in Downers Grove where it will be evaluated for a disposition decision. The alternatives discussed were to use the car for EV development, sell the car and use proceeds to finance the cooperative construction project, Remove usable electrical components and sell them. A fair market value must await evaluation results.

The construction program was discussed. First priority is selling the shares. The parameters are: 1) Front wheel drive with standard transmission. 2) Curb weight about 2500 lbs. 3) Good body and suspension condition. 4) Clear title. Members selected the following cars as acceptable: Escort - 2539 lbs, Geo Metro -1674, Saturn - 2495. VW Rabbit - 2620. Light pickup (S-10 or equivalent). no weight available. Other cars considered and not having much support were Mazda RX-7, Suburau Justy with CVT, and Fiero. Member Paul Harris offered to send a letter to automobile dealers asking if they have a suitable vehicle for conversion they would be willing to donate to the FVEAA.

The FVEAA needs to find a space to store Member Emde's boat so space will be available for the project. The boat and on a trailer is about 7' wide, 22' long, and 7' high

The meeting was adjourned at 10:35.

Dave Aarvold
Secretary.

PRESEZ

The final 1994 meeting on December 16th will be an open topics event. Much benefit from meeting attendance comes from the individual conversations among members during the break. At this meeting, members will be free to raise any topic and receive comments from all those attending. Another important item will be the election of 1995 officers. All present officers shown on the Newsletter cover have agreed to serve another one year term. Nominations for others of course can be made from the floor. Holiday greetings to all. Make it your New Year's resolution to - **GO ELECTRIC AND SAVE MONEY!**

Ken

MEMBERSHIP RENEWALS

It is important that membership renewals be paid this month. The Treasurer's November report shows that our operating fund is sufficient to prepare and mail only one newsletter issue after this one. Renewals are vital to our ability to keep you informed about current EVents and articles. This Newsletter contains a 1995 membership renewal form. Please mail your check to Treasurer Corel so you will be informed about FVEAA programs expected in 1995, including the cooperative construction project.

We have received a number of inquiries about the FVEAA, thanks to the 30-second announcements made by Member Jerry Mitchell that were broadcast over WYLL. Those who have an interest in electric cars and have made an inquiry to President Woods can respond by becoming new members.

Editor

FIAT RETURNS!

The 1975 Fiat 128 that was donated to Triton College in 1989 has been returned to the FVEAA this month. The car was towed from Triton to Tohurs Alcon's garage in Downers Grove. It was decided at the November meeting that the car should be evaluated before a final disposition decision is made by the FVEAA..

The car has an interesting history as an EV. It was originally built by Members Myers and Stockberger for George Snow who lived in Naperville. In 1985 he donated the car to the FVEAA. The car was used by various FVEAA members until we were unable to obtain the required liability insurance in 1989. The difficulty was not due to the car being an electric; it was caused by the multiplicity of drivers using the car. The FIAT developed a fracture of the motor coupling.

In early 1986, Member Ray Oviyach, who was a professor of Automotive Technology at Triton Community College, suggested the FIAT could become a useful teaching tool for automotive students at Triton. In May of 1989, the FIAT was donated to Triton to be used for that purpose. Students repaired the coupling and the car was displayed during many FVEAA participations in various public exhibitions, parades, and events. The purpose was served while Ray remained on the Triton Staff. His retirement to Professor Emeritus position last year changed that.

By 1994 Triton no longer maintained an active EV program. The FIAT was not used and stored outdoors. Ray assisted in its return to the FVEAA..

Several deficiencies were noted during the FVEAA ownership. John Newton's evaluation is included in this Newsletter..

JOHN S. NEWTON
22W450 AHLSTRAND DRIVE
GLEN ELLYN, ILLINOIS 60137

April 21, 1987

Dear Dana:

I am writing you as the coordinator of the trial operations of the Fox Valley Electric car, and making copies for the President and the secretary as well as John Emde.


Since receiving the car over a month ago I have spent some 50 or more hours in driving the vehicle and in doing a multitude of things relating to its appearance (painting not yet completed) its performance and and improvements some of which appear on the detailed attachment.

As with all electric battery operated vehicles, performance is closely related to battery charge, and the fine charger on the vehicle takes about 15 hours to bring the charge up to full. To date, the longest single run I have made was 22.5 miles and the open circuit voltages of the batteries wer 37.5 on the main batteries and 12.8 volts on the auxiliary battery at the end of the run, which was on essentially level roads, but there wer 19 full stops, most of them from a speed in excess of 40 MPH.

The always "noanswer" problem is acceleration, and in the case of 4 lane highways is top speed which is + 40 MPH now. The series connection with very light shunt isn's all bad. A shunt connection with variable shunt field strength would improve the acceleration some, but with minor complication. More acceleration requires a larger capacity motor and more current that the 560 amperes now.

Copies for
Bill Shafer
Ken Woods
John Emde

Sincerely,



ATTACHMENT FOR LETTER ON ELECTRIC AUTO OF 4/21/87

- 1 BATTERIES: There is no "hold down" on any of the batteries. The 6 volt batteries are constrained, but would fall out on an overturn. It is extremely difficult to water some of the 6 volt batteries
- 2 CHARGER: Ken Myers design is excellent - the 36 volt unit is operating the 12 volt needs a component which Ken Myers knows about. The car is "DEAD" if the 12 V battery is dead. Consider an emergency connection or charging from the 36 volt battery.
- 3 RELAYS: Charging relay to prevent driving with plug and 120 volt system active is by-passed because car is inoperative if relay fails. An emergency by-pass would correct the problem.
- 4 WHEELS: Growling noise reported to Dana Mock at front end was caused by loose nuts on both front wheels (3 and 4 turns loose)
Tightened when checking for poor braking and now tightened and "Staked"
- 5 BRAKES: Brake system now O K after bleeding, but should be checked often as I have used 8 ounces of brake fluid, Leakage appears under car in master cylinder area; also slight leak at left front upper fitting loose and tightened.
- 6 PAINT: Some additional "rust" removal and touch up necessary. I have corrected major defects except for wheels, one of which is black. This may be due to pad wear as I have made 3 emergency stops and the left front tire will skid. Can of black paint I have used is in the car.
- 7 ADDITIONS: 1- Opening in gas tank area of trunk closed with steel plate as dust was entering trunk.
2- Cover and gasket added to relay box.
3- Two 50 ohm resistors in parallel added to shunt field circuit to limit no load speed when in the series motor connection
- 8 CORRECTIONS: When it rains much there is water dripping into the front seat area, making the carpet wet.
The front parking lights and the front turn signal lights do not work



FOX VALLEY ELECTRIC AUTO ASSOCIATION, Inc.

**William H Shafer, Vice-President
308 South East Avenue, Oak Park IL 60302
(708) 383-0186**

November 14, 1994

To: Susan F Tierney
Assistant Secretary for Policy
United States Department of Energy

From: William H Shafer
Vice President, Fox Valley Electric Auto Association

Subject: Energy policy recommendations for urban areas (Particularly Chicago) Page 1/2

Energy policies for urban areas as defined by an SMSA or other generally accepted definition should be different than other areas. High population densities and industrial activity concentration require different regulations and remedial actions than do agricultural, range, or forest areas. Personal transportation provides a good example.

Personal automobile transportation in urban areas is characterized by daily trips of limited length. Previous investigations have found that 80% of these trips for work commuting, shopping, or personal errands are less than 30 miles. Trip mileage in other areas are much longer. Electric vehicles (EV) can be selectively used in urban areas for most urban area trips.

An energy policy that encourages a shift from petroleum based fuel to electricity for urban area transportation would be beneficial. Advantages include:

1. Electricity can be generated by many different sources.
2. A shift away from imported petroleum can be made.
3. EV efficiency of about 85% can reduce transportation energy required.
4. Environmental improvement.
5. The ownership and operating costs for an EV owner will be less than present costs for petroleum based cars.

Results of DOE and EPA sponsored investigations provide ample documentation for the first four listed advantages. FVEAA experience provides supporting data for the fifth.

The attached Exhibit A describes our organization which was formed in 1975 following the first oil embargo, describes cars that some of our members have recycled and converted to electric drive, provides general conversion information, and includes the FVEAA Declaration Of Energy Independence presented on the April 22, 1990, the twentieth anniversary of Earth Day. Some of our members have 20 years of experience using an EV in urban areas.

FVEAA experience have shown that these cars, used for limited-distance trips, have saved money. Let me provide an example from my 20-year experience with building and using two EVs.

The first car I converted in 1973 was a 1967 Dutch DAF. Exhibit B summarizes conversion costs and 16 years of operating experience. The annual cost was \$ 392. The DAF experienced terminal body rust and was replaced in 1992 with a conversion of a 1980 Mazda RX-7. Project cost was \$ 4225.87. The Mazda 2-year average annual operating expense of \$ 339 (including battery amortization based on my DAF experience but not including depreciation) has confirmed the DAF costs.

The EV will have a long life and low depreciation. (The DAF electrical drive components were recycled into a conversion of an Escort by another FVEAA member). Also, when an EV substitutes for conventional car use in short-trip situations, the life of the gasoline car is extended by elimination of low efficiency in urban driving and cold starts which account for engine wear and the majority of VOC emissions. These factors and their effect on the current automobile manufacturing and sales economic activity must be considered by the DOE. I believe they may account for some of the current opposition to EVs by domestic manufacturers.

EV utility can be improved with widespread availability of "opportunity charging" for the user. For example, a policy that would reward an employer providing electrical connections for EVs driven to his plant parking lot by his employees would encourage a shift to Evs.

Exhibit C is an FVEAA entry submitted in a 1993 competition that describes how EVs could be effectively introduced into Downers Grove, a Chicago suburban community. The entry suggests a short-term lease subsidy to encourage EV trial use. We call this "Gotcha Marketing" because our experience that once a person starts using an EV within its capability, he will be reluctant to return to his former pattern of vehicle use..

When the FVEAA exhibits its cars at community events, we are always asked two questions about our cars:

1. How fast will it go? This is a question of motor drive horsepower and has been addressed by the current series of test vehicles built by auto manufacturers.
2. How far will it go? Our experience indicates 30 miles is sufficient Test cars have a 70-100 mile range in urban traffic..

We believe that policies which demonstrate to consumers that it is in their economic and environmental interest to own and use an EV within its capability as an urban transportation tool. It is our opinion the Federal Government should adopt policies emphasizing EV advantages for the consumer and rely on market pull rather than legislative fiat such as the 1990 revision of the Clean Air Act to to push the automobile manufactureres to build EVs they believe no one wants to buy.

atch.

William H. Shafer
William H Shafer