

PRESIDENT
William Shafer
308 S. East Ave
Oak Park Il 60302
312/393-0186

F. V. E. A. A. NEWSLETTER

AUGUST 1989

VICE PRES.
Kenneth Woods
1254 Harvest Ct.
Naperville Il 60565
312/420-1118

TREASURE
Vladimir Vana
5558 Franklin
LaGrange Il 60525
312/246-3046

MEETING NOTICE

The next FVEAA meeting will be
AUGUST 18th at
Cragin Federal Savings & Loan
333 W. Wesley st. Wheaton, Il
Time - 7:30 P.M. sharp. Guests
are welcome and need not be
members to attend the meeting.

SECRETARY
Paul Harris
9421 N. Kildare
Skokie Il 60076
312/674-6632

NEWSLETTER EDITOR
John Emde
6542 Fairmount
Downers Grove Il 60516
312/968-2692

DEADLINE for newsletter *STUFF* - in my hands the friday before the next meeting. Editor

THE PREZSEZ

The third week of August will be busy for the FVEAA. At our August 18th meeting Dr. Ed Francis, a Professor and Researcher at ISNU, will present information on the current status of photocell development. Dr. Francis is the principal investigator of the experimental 6 KW solar photoelectric installation at Aurora's Blackberry Farm and is well versed in solar technology.

Four members; Dale Corel, J. Stockberger, J. Emde, and Shafer have agreed to participate in the Woodale event on Saturday, August 19th. The next day members Setton and Oviyach will have Henry's car at the Montgomery event, along with the last three going to Woodale.

The good news: Member Delmonico reports progress on his project and member Paul Harris has reported plans to clear out his garage and soon resume work on his Gremlin. The bad news: Member Geo. Kranovich's controller (Wiley) which suffered a failure of the collector buss is still out of service and is being repaired by Member Myers.

Bill

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**FOX VALLEY ELECTRIC
AUTO ASSOCIATION**
6542 Fairmount Downers Grove Il 60516

FIRST CLASS

ADDRESS CORRECTION
REQUESTED

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Minutes of the Fox Valley Electric Auto Association....July 21, 1989

The meeting was called to order by Pres. Bill Shafer at 7:40 P.M.

Guests attending the meeting were Janet Zuffa, Paul Krause and Bill Laughler.

Everyone introduced themselves and then our esteemed treasurer gave his usual very detailed report...Now account \$1,029.96..Savings account..\$856.11 for a grand total of \$1,886.07; Thank you very much Mr. Vana.

Pres. Bill Shafer reported on the Brookfield 4th of July parade..Our cars won 1st and 2nd prizes...John Stockberger...1st place and George Krajnovick....was the 2nd place winner. Henry Setton to bring the trophies to the August meeting for presentation. John Emde reported that 1000s of people received our cars very well. Ken Woods and Pres. Bill have plans in the works to declare our "Energy Independence" for the next 4th of July...

HYBRID COMMITTEE: Pres Bill and John Stockberger request names of volunteers to work on this very important project..Please contact them and offer to help.

John Stockberger reported on the Hamfest at Pheasant Run Sunday, July 16th.... He says it was very well attended and that parking became very scarce at around 8:00 A.M.

Ken Woods brought to the attention of the members that on August 19th, Saturday, there will be a Woodale Parade honoring DuPage Countys 150th Anniversary Celebration. We are to meet at 8:30 A.M. on Front Street...Irving Park Road and Wooddale Road. Robert Doane is the event chairman..we expect around 4 to 5 cars...

There will also be a 150th anniversary for Montgomery Illinois and they will hold a one mile parade on August 20th..looks like we expect around 3 to 4 cars....

A motion was made by Paul Harris and seconded by John Stockberger for the club to purchase Clarence Ehlers' latest updated version on conversion of an auto from gasoline to electric. The motion was carried..and the club will order it.

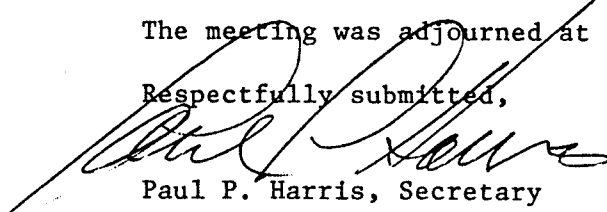
The program for August will feature guest speaker Ed Frances..the topic will be photovoltaics.

Bits and pieces.....John Stockberger and Pres. Bill Shafer had dinner with one of our out of state members...Len Fisher, naturally they spoke of their mutual interest in electric vehicles...and also the possibility that Len may be moving back into our area. We would all welcome you back Len...

The balance of the meeting was devoted to watching a video presentation on the manufacture and construction of solar components and the GM Sunracer. This was made possible by John Stockberger bringing his video equipment..Thanks John..

The meeting was adjourned at 9:20 P.M. by acclamation.

Respectfully submitted,


Paul P. Harris, Secretary



Carl Swick of Orland Park fuels his hybrid electric car by plugging it in. It currently operates on 36 volts, which he hopes to increase for driving longer distances and higher speeds. (Photo by Bill Zars)

Beating high prices at the gas pump

by Sheila Jennings

This car may not win the Indy 500, but the driver also won't race through his wallet paying for gasoline. The vehicle doesn't need gas. Just plug it in for six to eight hours in a 110 volt outlet.

Carl Swick, an Orland Park resident, converted his 1976 Chevrolet Chevette into an electric car. Although he considers the car a hobby rather than this usual means of transportation, the concept of electric powered cars is one Swick believes may someday catch on. California is a likely place to start, he said, because that is where the level of pollutants in the air often reaches dangerous levels.

After first learning about electric cars through an issue of "Mechanics Illustrated," Swick was hungry for more information. He sent in about \$20 for the plans.

"Then I didn't build it according to those plans at all," he recalled, raising his eyebrows and smiling.

A friend of Swick's who is a member of the Fox Valley Electric Auto Association in Wheaton gave Swick written information he needed. Swick joined the association "right away" and is still a member.

"I knew nothing about electronics," Swick says. "I didn't know the names of any of the components."

Swick did the actual work himself, however, in his garage.

He started in January 1982 and finished in October of the same year.

The FVEAA assists electric car owners through the exchange of information about construction and operation. The association was formed in 1975 following the oil embargo gasoline crisis and was chartered as a not-for-profit organization in 1976, said Bill

Shafer, president of the association. Members have converted more than 20 cars and three bicycles to electric power and more are underway, Shafer said.

Swick said he has even seen vans converted to electric power. Electric cars have been shown at shopping centers, Fermilab and the state fair and in community parades and events. Almost any car can be converted, Swick said, but the lighter the car the better.

"I bought the car from a college girl," Swick said. The car had 30,000 miles on it. "I almost cried when I had to take the engine out. It was perfect. But I sold it right away so I wouldn't change my mind."

Even after taking the motor out, the car still gained weight because of the batteries. The weight of the car before the conversion was 2,000 pounds. Now it is 2,200

Continued

Beating prices

Continued

Swick is using three 12-volt batteries in his car.

"They have come down in price. I paid \$67 for the 12-volt batteries apiece and I paid that for the 6-volt when I bought them. They've come down almost half in price since I bought my first set of batteries," he said.

Swick previously had been using 6-volt batteries rather than 12-volt because there is more lead in the 6-volt.

"That's what does the work for you," he said, referring to the lead. "It makes them last a lot longer."

One 60-pound 12-volt battery, however, can take the place of two 6-volt batteries that each weight 60 pounds, too.

The components for his electric car cost \$2,800 at the time he put the car together, Swick said. Swick's is a hybrid electric car; it can run on electricity or gasoline.

"The idea was to be able to charge the batteries as you drove so you could get more distance," said Swick.

"When I put this car together the people in the electric car association had a fit because I was using some gasoline yet," Swick explained. He added, however, that one member was helpful to him.

Swick eventually used the hybrid part of the car in an emergency. "The two-cycle gas engine would just barely move the car by itself," Swick said. It got him home, though.

"Years went on and in about the last year and a half, the electric car association has been working on a prototype of hybrid electric. They thought all the time that batteries would get a lot better—and they haven't," said Swick.

"They can make one cell and make it perform," said Swick, "but they can't put it on an

assembly line. It costs too much under mass production."

Swick's car can travel for about 25-30 miles without a charge.

Traveling up hills takes more amps, so mileage is less in that case. Highway travel would allow more mileage per charge, just as it allows more miles per gallon of gasoline. The batteries used are the same as those used for a golf cart, he said. A set of batteries last an average of three or four years. Swick added.

Electric cars that carry more than 100 volts can have the same speed and pick up as a gasoline-powered car.

Swick's car can travel up to 35 mph.

"I drove it a lot for a while," Swick said. "But I'm almost afraid to take it out on 151st Street."

Increasing the voltage from 36 to 48 would increase the speed by about 10 more mph, Swick said. Ninety-six volts would be the maximum voltage the car would take, which would enable the car to reach a speed of 100 mph.

"But I don't know if this car

would go 100 because I doubt if it went 100 mph when it had a gasoline engine," he said with a half-smile. "It would give you performance—acceleration and speed. It doesn't help mileage."

Swick speculates that the demand will eventually increase for electric cars like this. In the meantime, getting an electric car licensed and insured can be a hassle, Swick admitted.

"The strange thing is," Swick said. "When I was 8 or 10 years old, I remember a lady in our home town drove an electric car all the time. That was 70 years ago in Newark, Ohio."

Now it's nearly the 1990s. Gasoline prices are back where they were in the '70s—more than \$1.30 per gallon at some stations for high octane fuel. Pollution is worsening and gasoline-powered cars are contributing to the problem.

"It probably will happen someday," Swick said.

We may be plugging in our cars at night rather than filling them up with gas.



Not one puff of smoke is emitted by Carl Swick's car; it's electric. (Photo by Bill Zars)

Due to a delay in the mail, the June '89 minutes did not make the *DEADLINE* of "the friday before the next meeting". Therefore, you get to read them this month.

MINUTES OF THE FOX VALLEY ELECTRIC AUTO ASSOCIATION FOR JUNE 1989

President Shafer called the meeting to order at 7:39 P.M. There were 12 members present and one guest, who was a previous member and will now return to the fold. His name is Les Stone, and he happens to be one of the original founders of the FVEAA. He has an electric bike with over 8000 miles on it !!! He built his first electric auto in 1974.

Treasurer V. Vana back from vacation (and still hasn't spent all our money) reports that the NOW account has \$1053.33 and the savings account has \$848.28 for a grand total of \$1901.61.

Henry Setton reported on the Pet Parade of June 3rd. There were 4 cars..it was a little soggy but the enthusiasm was not dampened and everyone had a good time.

Ken Woods reported that the club has been invited to display our cars on 8/19/89 at the DuPage Sesquicentennial (is that the right spelling ?) in Wooddale. Members are being polled to get participants.

Henry Setton stated that on July 4th Brookfield Recreation Dept will sponsor a parade and all who wish to participate were to meet at his home. I hope the turnout was good. We will have a report at the July meeting. John Emde to check out Downers Grove for possible parade and to display our cars.

There will be a hamfest at Pheasant Run, St. Charles, Il. on July 16, 1989 from 8:00 A.M. to.....\$5.00 admission at door...but \$4.00 in advance from John Emde or Everett Harris. We hope to display some cars...

Carl Zwick has a one man T.V. show...1 hour on Jones intercable in Orland Park.

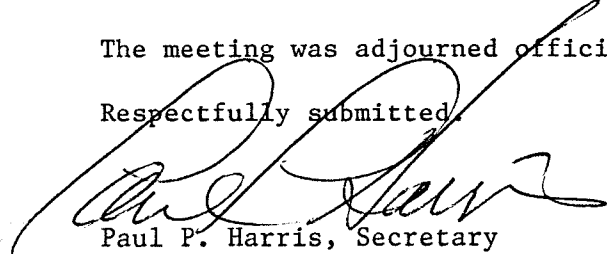
There was a discussion to have a VCR nite to view tapes of how the GM sun racer was built and the testing it went thru on IC components. This will be the program for the July meeting.

A task force to be formed to develop a HYBRID vehicle and to report on progress at regular meetings.

Everett Harris has a 1954 Honda still for sale...needs batteries...call for an inspection appointment and price.

The meeting was adjourned officially at 9:41 P.M. by acclamation !!!!

Respectfully submitted.


Paul P. Harris, Secretary

KEN KOCH, KTA Services, 12531 Breëzy Way, Orange, California 92669 is our newest sponsoring member. KTA Services is a supplier of EV components and may be reached at (714) 639-9799 or (714) 821-2000 ext 5396. We list here some items available from Ken. If interested, please call or write for a more complete description and listing.

ELECTRIC VEHICLE CONTROLLERS FOR DC MOTORS

| | |
|--|----------|
| Curtis-PMC <u>Model P-11c</u> Transistor Motor Controller, 300 amp, 48 - 72 volt | \$450.00 |
| <u>Model P-11C</u> Installation Manual only | \$5 00 |
| Curtis-PMC <u>Model P-21</u> Transistor Motor Controller, 400 amp, 72 - 96 volt | \$650.00 |
| Curtis-PMC <u>Model P-25</u> Transistor Motor Controller, 400 amp, 96 - 120 volt | \$695.00 |
| <u>Model P-21 & P-25</u> Installation Manual only | \$5.00 |
| <u>Model PB-2</u> Throttle Potbox | \$30 00 |
| <u>Model FP-1</u> Footpedal Potbox | \$60.00 |

ELECTRIC VEHICLE CONTACTORS

| | |
|---|----------|
| Albright <u>Model SW-180B</u> Main Contactor, 150 amps, 12v coil, normally open | \$50.00 |
| Albright <u>Model SW-182B</u> Reversing Contactor Set, 150 amps, 12v coil | \$150.00 |
| Albright <u>Model SW-200B</u> Main Contactor, 250 amps, 12v coil, normally open | \$120.00 |

ELECTRIC VEHICLE SAFETY FUSES

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|---|---------|
| Reliance <u>Model RES-200</u> Rectifier Fuse, 200 amp, 125 volt | \$17.00 |
| Bussman <u>Model KAA-400</u> Rectifier Fuse, 400 amp, 125 volt | \$20.00 |

ELECTRIC VEHICLE CIRCUIT BREAKERS

| | |
|---|----------|
| General Electric <u>Model TOD-150</u> Circuit Breaker, 540 amps for 10 sec | \$90.00 |
| General Electric <u>Model TOD-200</u> Circuit Breaker, 720 amps for 10 sec | \$100.00 |
| KTA Services <u>Model HDWE KIT #1</u> mounting kit for the above breakers.. | \$10.00 |

PLUGGING PROTECTION DIODE

| | |
|--|---------|
| Curtis-PMC <u>Model PD-1</u> Plugging protection diode | \$17.00 |
|--|---------|

FAN & BRACKET KIT FOR COOLING CURTIS-PMC MOTOR CONTROLLERS

| | |
|--|---------|
| KTA Services <u>Model FAN KIT #1</u> , 12 v 0.5 amp, 105 cfm | \$20.00 |
|--|---------|

METERS & INSTRUMENTATION

KTA Services does not offer a commercial line of meters at this time. See projects #1 and #2 below. Custom meters, panels and complete instrument systems can be supplied on request. Contact KTA for an estimate.

| | |
|--|---------|
| Deltec <u>Model MKA-50-50</u> , 0 to 50 amp, 50 mv shunt only | \$17.00 |
| Deltec <u>Model MKB-50-50</u> , 0 to 500 amp, 50 mv shunt only | \$22.50 |

AUXILIARY CONTROL RELAY

| | |
|--|---------|
| Schrack <u>Model RM 805012</u> Relay, double-pole, double throw, 25 amp; 12 v, 120ma | \$17.00 |
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PUBLICATIONS AVAILABLE FOR DO-IT-SELFEERS:

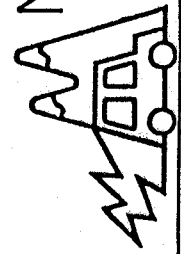
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|---|---------|
| <u>GUIDE TO ELECTRIC AUTO CONVERSION</u> by Bill Williams | \$12 95 |
| <u>EV PROJECT #1: BUILD YOUR OWN EXPANDED-SCALE VOLTMETER</u> by Ken Koch | \$2.50 |
| <u>EV PROJECT #2: BUILD YOUR OWN TEMPERATURE METER</u> by Ken Koch | \$2.50 |
| <u>EV PROJECT #3: RESTORING VACUUM TO THE POWER BRAKES IN AN ELECTRIC CONV.</u> | \$2.50 |
| <u>EV PROJECT #4: ELECTRIC HEATING FOR YOUR ELECTRIC CAR</u> by Ken Koch | \$2.50 |

KEN KOCH is well qualified in the EV business. He commutes on the L.A. freeways in a converted Mazda RX-2 which he designed for a friend and then took over when the friend passed away. The car has a top speed of 78 mph, range of 125 miles and does 0 to 50 in 13 seconds.

LIFTED FROM

DEVC
AA NEWSLETTER

DENVER ELECTRIC VEHICLE COUNCIL
2940 13th Street
Boulder, Colorado 80304
July 1989



LOCAL EVENTS

Friday August 18
F.V.E.A.A. Meeting
Wheaton Illinois
7:30 P.M.

Saturday August 19
Wood Dale Parade
F.V.E.A.A. participation
Front Street & tracks
Assemble 9:00 A.M.
Parade begins 10:00 A.M.

Sunday August 20
Montgomery Parade
F.V.E.A.A. participation
Assemble noon time
Parade begins 1:00 P.M.

Sunday August 27
A.R.R.L. Hamfest
U.A.W. Union Center
Tilton Road
Tilton, Illinois
7am \$2.00

Sunday Sept. 10
BARS Ham/Computerfest
Inwood Recreation Ctr.
3000 W. Jefferson St.
Joliet, Illinois
8am \$4.00

Friday Sept. 15
F.V.E.A.A. Meeting
Wheaton Illinois
7:30 P.M.

Sat. & Sun. Sept. 23-24
Radio Expo 89
Lake County Fairgrounds
Rts. 45 & 120
Grayslake, Illinois
6am \$5.00

SEND YOUR:

News, articles, events, want ads, photos to the : **NEWSLETTER ED**
Membership inquiries, applications & payments to the : **TREASURE**
Inquiries on club info, tech ??? & all other ??? to the : **PRES.**

NEWSLETTER EXCHANGE

The FVEAA newsletter is now being exchanged without charge to other clubs on a reciprocal basis. So far we're sending to New Mexico, Pennsylvania, California, Colorado, Canada and Illinois. These and hopefully many more will keep us informed of news and events in other areas.

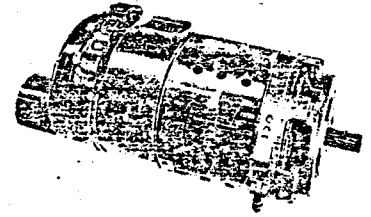
DEADLINE for newsletter *STUFF* - in my hands the friday before the next meeting. Editor

FOR SALE

2CM77 400 AMP MOTOR
\$100.00

Jim Medek
117 Imperial Court
Palatine IL 60067

312/934-1154



FOR SALE

Electric car \$1800 O.B.O.
1975 Honda Hatchback
New tires 54 Volt
On board charger
Needs new batteries
Good condition

Everett Harris

312/232-0344



Dr. Charles (Ed) Francis, professor and reasearcher at Illinois State University, our speaker for the August 18 meeting, is the principal investigator for the residential scale photovoltaic system at the Blackberry Historical Farm near Aurora. This 6 KW system has a utility interconnect with Commonwealth Edison to provide data and experience with interconnection methods an PV output effects on existing electrical distribution systems.

ADVERTISING

Free to members
Commercial: On quota



Thorndale

WOOD

DALE

~~The Pikeville Road~~

Springfield Road

Wood Dale Road

assembly point
of parade
(FRONT STREET)

P.S.

Saturday
August 19th
Parade begins
at 10 AM

Highway 83

Highway 53

Lake Street

MUSEUM Phone 910. 595-8777
LIBRARY " " 766-6762, 766-5217
Bob Doane " " 766-1768
CONTACT PERSON RE: FVEAA PARTICIPATION

MONTGOMERY

N

AURORA

31

25

59

34

NAPERVILLE

75TH ST.

WOODRIDGE

30

34

LINCOLN Hwy.

OSWEGO

71

PLAINFIELD

MONTGOMERY PARADE
SUNDAY AUG. 20TH
PARADE BEGINS 1:00 PM.