

F.V.E.A.A. NEWSLETTER

MAY 1991

PRESIDENT
William Shafer
308 S. East Ave.
Oak Park, IL 60302
(708) 383-0186

VICE PRESIDENT
Kenneth Woods
1264 Harvest Ct.
Naperville, IL 60565
(708) 420-1118

TREASURER
Vladimir Vana
5558 Franklin
LaGrange, IL 60525
(708) 246-3046

SECRETARY
Paul Harris
9421 N. Kildare
Skokie, IL 60076
(708) 246-3046

EDITOR
Richard Sachtschale
1018 Jackson St.
Aurora, IL 60505
(708) 898-6403

Newsletter items should be submitted to the Editor by the first Friday of the month

Nonmembers are always welcome

NEXT MEETING
MAY 18th 7:30 P.M. SHARP
Room 157, doors open @ 7:00
Use Northeast entrance of Building K, College of DuPage
22nd & Lambert, Glen Ellyn

THE PREZSEZ

Inquiries about the FVEAA continue to come in. Mostly through the efforts of Jerry Mitchell who mentions our Organization on the air. We probably have enough new members who need to begin a tutorial session on electric car conversion, starting from the beginning. This topic will be on the May 17th meeting agenda for consideration.

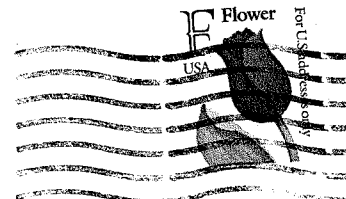
We will also discuss the final arrangements for our participation in the Midwest Alternate Energy Fair in Amherst, Wisconsin June 20-23. There has been a change in plans. Employing a car carrier proved to be too expensive for the organizers. A 48-foot flatbed truck capable of holding 3 cars will be substituted. Also, instead of separate sessions on car conversion and hybrids, only a single session is now scheduled to cover both topics which I will present, with the help of John Stockberger and Ray Oviyach.

As of press time, our inspection of the Warfield Electric Co. motor shop in Frankfort on May 18th has not yet been finalized. I will announce at the meeting if this event is a go for that date.

Bill

FOX VALLEY ELECTRIC AUTO ASSOCIATION

1018 Jackson St.
Aurora, IL 60505



**ADDRESS CORRECTION
REQUESTED**

JOHN EMDE
6542 FAIRMOUNT AVE.
DOWNERS GROVE IL 60516

FIRST CLASS

Minutes of the Fox Valley Electric Auto Association.....March 15, 1991

The meeting was called to order at 7:30 P.M. by Pres. Bill Shafer. There were approximately 22 members present. Treasurer V. Vana reported that we have \$938.22 in the savings account and 2,047.12 in the Checking account for a grand total of \$2,985.34....

Pres. Shafer gave a report on the Triton exhibition. We had two cars...the Triton car and Bill Shafer Daaf. Bob Barnett proposed to get a banner made up for our future exhibits..the cost to be determined. Ken Woods also made a report on his presentation of 'SOLAR STUFF'..

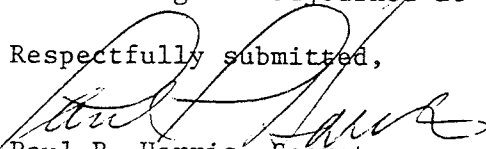
Pres. Shafer brought up the upcoming Midwest renewable energy fair..June 21, 22, and 23rd. It is better attended and organized. At least 8000 people. Really significant exhibits, and they will lease a car carrier to take 5 or 6 of our vehicles there. to Amhurst, Wisc. The cars being planned on are..Ray Oviyachs Triton car....George Krajnovichs Hybrid... Bill Shafers Daaf... Maybe Carl Zwicks hybrid...and Everett Harris' car and last but not least...Ralph Johnsons..Citicar.. John Emde made a motion that we accept the offer and it was seconded by Ray Oviyach that we participate in the event. The Vote was unanimous.

Pres. Shafer reported that he had declined to the Montgomery Fest Parade people regretfully that we will not be able to participate on August 25, 1991.

Ken Woods brought up the Labor Day parade weekend in Naperville. We may participate. There was a coffee break followed by a discussion by Bob Barnett onmerits of a full on and full off switching mechanism for electric vehicles. Pres Shafer talked a little bit about his up and coming Mazda RX7...snazzy car to be....

The meeting was adjourned at 9:45 P.M.

Respectfully submitted,


Paul P. Harris, Secretray

front and rear axle to suit the suspension, which has 900 lbs load capacity on the rear axle and 350 lbs on the front. The original aluminum engine weighs approximately the same as the ASG and control relays which were all placed in the front under the hood. The original splash shields do a very effective job of protecting the new motor. With removal of the gas tank an extra 100 lbs capacity was added to the rear. The cargo bed is just big enough to place a 12-battery insulated pack without cutting anything. 15 inch tires have no problem with the total vehicle weight of approximately 2500 lbs. Roll bars and skid plates and spare tire etc, were removed to further reduce the original weight.

The 4WD may seem counter productive for an electric car but compromise is the word during any conversion. The extra losses include:

1. Extra weight in drive shafts and axles.
2. Second transmission losses (transfer case).
3. When running in 4WD mode a second differential is in motion, causing more friction.

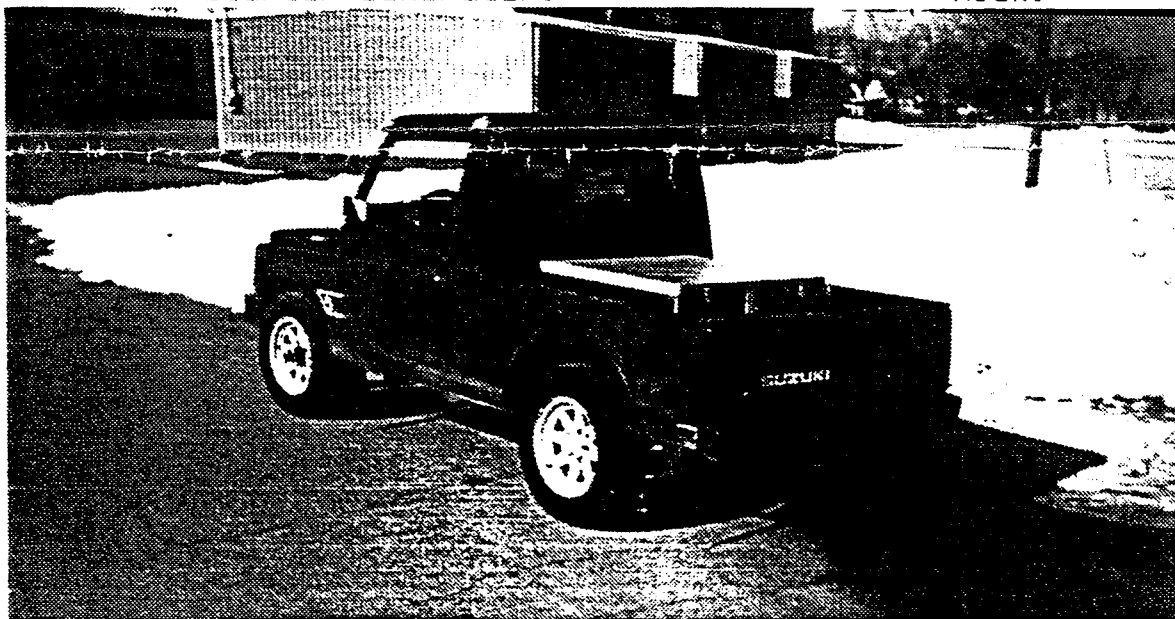
I may look into removing the 4WD capability in the future, but for now, with the extra winter security vs the efficiency loss, I will stay with 4WD.

By using the pickup version and by adding a bulkhead between the seats and battery box as I did, it makes for a small passenger compartment to heat in winter. The SUZUKI has a very simple central heating system which is easily removed and converted to electric, keeping all the original defrosters and vents. This job usually requires an expensive and complicated gas heater in other cars.

The final product is a 2500 lb, well-balanced vehicle which can take the biggest potholes Ottawa can put under a puddle and ride much smoother than stock. 4WD doesn't get stuck, has adequate performance and brakes without that "Hope I Make It" feeling. For the really steep hills, I just shift into Low Range with a 32:1 ratio and climb over anything!

*ASG -Airplane Starter Generator.

Rick.



Here is the second article on Rick Lane's SUZUKI 4X4 EV conversion. The first, "SUZUKI 4X4 ELECTRIC---1000 KM REPORT" appeared in our Jam/Feb.issue. Rick's first conversion was a VW Dune Buggy. He can be contacted at 249 Anna Ave., Ottawa, Ont. K1Z 7V4 Ph(613) 722 9939

SELECTION OF A BASE VEHICLE FOR CONVERSION TO ELECTRIC DRIVE

By Rick Lane.

This article discusses why I chose to use a SUZUKI 4X4 truck for my latest electric vehicle.

The most reliable and predictable project is always one which was designed to perform within the limits of all the parts which go into it. The same goes for electric vehicle conversions.

The base vehicle must be able to carry the weight of the batteries, store the volume of batteries, move on very little power and survive without placing the occupant's life in jeopardy in the event of a sudden stop or accident.

My first criterion was to build an all-season vehicle. This meant that the batteries would have to be insulated and heated. This is always easier if all the batteries are in one pack - but this pack becomes large and heavy.

My second criterion was to use existing ASG* technology which has proven very reliable in my Dune Buggy. As the ASG has very limited output, the size of the vehicle must be kept to a minimum.

The third criterion was that this was to be a conversion, not a ground up manufacture project. A very limited budget was established. Various vehicles were reviewed for suitability:

HONDA CIVIC - 2100 lbs, small, limited load capacity.

Would require suspension modifications.

Battery load would be on the rear wheels; however this is a F.W.D. car -- possible winter driving problem.

The unit body may not accept the suspension mods. to carry 900 lbs of battery.

Wheel capacity was also at the limit.

Most cars under 2500 lbs showed the same characteristics.

SMALL TRUCKS - TOYOTA, MAZDA etc. all weigh in around 3600 lbs.

Add 900 lbs of battery and total weightt becomes 4500 lbs.

An ASG would not perform at street speeds with this load.

I heard a story about 4X4 clubs which always made sure there was a SUZUKI in the pack if they went into muddy places. The SUZUKI was so light that it could run over the mud, pulling the winch cables of the large 4X4s so that the large trucks could pull themselves through the mud after after their cables were attached to a suitable tree on the other side.

The current SUZUKI SAMORI and SIDEKICK models have a very short wheel-base. During the mid-80s though, there was a pickup truck version and a long wheel-base version made, the SJ 410W Series.

The SJ 410W weighs 1950 lbs, is less than 5 ft. wide and only 12 ft.long. This is narrower and shorter than a HONDA CIVIC. It stands tall but has a very high ground clearance due to large tires, so actual frontage area is small. The load capacity is 1250 lbs and the transmission has very high ratios which suit the ASG's 10,000 rpm. (3000 rpm @ 60 kph in 4th gear high range).

The long wheel-base allows the proper weight transfer between the