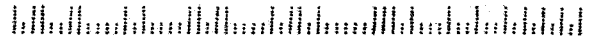


Fox Valley Electric Auto Association  
1522 Clinton Place  
River Forest, IL 60305-1208



John Emde  
6542 Fairmount Avenue  
Downers Grove IL 60516 -2919

**Address Correction Requested**



**NEXT MEETING:** Friday, June 20 at 7:30 PM in Room K-161 at The College of  
Dupage SW Corner of 22nd Street & Lambert Road in Glen Ellen.

**DISCUSSION TOPICS** - 1. Opening of Nissan bids. 2. Consideration of Nissan bids.  
3. Approval of winning bid. 4. Open Topics.

**MEMBERSHIP INFORMATION**

Any person interested in electric cars is welcome to join the FVEAA. The cost for a full year's dues is \$20 that will entitle the member to receive our monthly Newsletter that contains useful information about electric car components, construction, policies and events. Dues for new members joining in June will be \$ 11.

To obtain information about the FVEAA, you may contact either President Woods or Vice President Shafer:

President - Ken Woods  
1264 Harvest Court  
Naperville, IL 60564-8956  
(630) 420-1118  
E-mail Casa Zeus2@aol.com

Vice President & Editor - Bill Shafer  
1522 Clinton Place  
River Forest, IL 60305-1208  
(708) 771-5202  
E-mail WHShafer@aol.com

**JUNE 1997 PRESSEZ**

**SAVE MONEY - DRIVE ELECTRIC**

**KEN**

## MINUTES OF MAY 16 MEETING

The meeting in Member Ed Meyer's hangar was called to order at 7:15 by President Woods. Twelve members and five guests attended. No Treasurer's report was made. The minutes were approved as published.

Member Ed Meyer gave a briefing of how to drive the Nissan. Members present then took the car for a test drive. All drivers reported a positive experience.

Member Andy Redpath distributed updated draft copies of the Nissan Owner's Manual. Minor changes and additions were noted, including a grounded meter circuit on the fuel gage. Members approved Andy adding his name on the front cover as "Prepared by Andy Redpath with input from FVEAA participating members." Members also approved adding an appendix to the owner's manual listing uncompleted items, as published in Part B (The Car) under the Nissan Auction Requirements article in the May Newsletter. Several members offered to provide copies that will be available at meetings and on request from the Newsletter Editor. The cost of postage precludes mailing the document to each member.

President Woods, Project Manager Munroe, and Newsletter Editor Shafer led a discussion of the procedure for the Nissan auction in June. Preliminary requirements were published in the May Newsletter.

The first factor was the minimum bid. Out-of-pocket expenditures total \$4793.21; FVEAA-owned parts and donated material amount to \$773. The car is not quite finished and an estimated \$325 allowance should be made for these items.

After discussion, the membership approved a suggested acceptable bid of \$5300, unless a lower value is approved at the June meeting during the auction.

Final requirements will be published in the June Newsletter. Auction rules were published in the May Newsletter. These were discussed, approved, and will also be included in the June Newsletter.

Member Shafer reported quotes for 6 and 8-volt batteries from Battery Service Corp. in Bensenville. Trojan T-105 batteries are \$42.99. Trojan 8-volt batteries are \$78.30.

Members viewed an Electric Power Research Institute videotape on EV developments before adjourning the meeting at 10:05.

Submitted by:  
Secretary Dave Aarvold.

## BATTERY STUFF

The Internet on 5/30/97 had an article on the Bolder battery that features longevity and power. The battery is constructed as a spiral-wound 0.002-inch thick lead foil strip coated on both sides with a 0.003-inch thick lead oxide paste. The assembly is jelly-rolled with an 0.008 inch fiberglass separator to form a cell with an extremely large active surface area-to-volume ratio. The foil edges extend on opposite edges and electrode terminations are made there. The sub-C size battery weighs 82 grams and has a cell impedance of less than 1.5 milliohms.

In any lead-acid battery the active surface area determines the battery power level. Active material volume determines the energy capability.

## RECENT ARTICLES ABOUT ELECTRIC VEHICLES

**Honda's EV Plus, Car & Driver, July 1997, Page 113.** This is a review of Honda's electric car that will be offered for lease in California. Monthly lease cost of \$ 499 includes insurance and maintenance. Base vehicle price is \$ 53,999. Estimated residual value is \$ 37,799. Honda will swallow the extra cost for a NiMH battery. Their comparison with GM's EV-1 notes that the Honda offers a more practical vehicle; that seats four persons, has 12 cubic feet of luggage space and a 75-125 mile single charge range.

The Honda uses a 66 hp brushless DC motor and battery charger that will replenish the charge from a 240-volt supply in about 6 hours. An on-board 120-volt charger requires 36 hours for the same task. One interesting feature is a remotely-controlled climate control system that can be activated while the vehicle is still plugged in - allowing energy for initial heating or cooling the car's interior to come directly from the supply circuit.

Their verdict: Excellent fit-and-finish equal to Honda's usual product line. A modest performance and lengthy recharge time. The most-credible electric vehicle they have tested.

**Power to the People. Popular Mechanics, July 97, Page 73-75.** In this article a different organization made a comparison test of the GM and Honda cars - and reach the same conclusion - Honda is the more practical electric car but less sexy.

**1998 Audi Duo, Car & Driver, July, 1997, Page 151.** This is a road test of a parallel connected diesel-electric hybrid, 5-door station wagon. The interesting feature about this vehicle is a Siemens-developed tiny electric motor, about the size of two coffee cans stacked end-to-end. The three-phase ac motor runs up to 10,000 rpm delivers 29 hp. The motor is bolted to the back end of an automatic transmission that includes gearing for the motor connection.

The battery pack includes 22 lead-acid batteries providing 264 volts with a 10 kwh capacity. Recharging batteries from 15-90% of capacity requires 4 hours from a German standard 220-volt, 16-amp household plug.

Estimated cost for the Duo is \$ 37,500, about a \$ 8700 premium over the standard car. Audi hopes to sell 500 vehicles next year, principally to utilities and fleet owners.

The 4/25/97 issue of the New York Times notes the highest ratio of electric to conventional cars in the US is found on Orcas Island (Population 11,000). It is part of the San Juan Islands, east of Bellingham Washington and near Vancouver Island in Canada. . In 1991, Orcas Power purchased a Solectia Force electric vehicle and installed five charging stations as a part of a federal test program. It seemed like an ideal test site with mild winters, limited driving ranges, expensive gasoline, and environmentally-minded residents. There are now a dozen EVs and 9000 conventional cars on the island, a ratio of 1:750. Their experience has shown that EV operating costs exceeds the gasoline versions when the \$ 5-700 cost of replacing the batteries every 5-7000 miles (10 cents/mile) is added. to electricity costs of a penny a mile. Acceptance might be higher when they can buy electric Oldsmobiles instead of the little ones now available.

## FROM OTHER EV NEWSLETTERS

**Future Drive**, the Argonne Lab publication, Spring, 1997 issue lead article described how the new President of SAE was part of a tour of energy efficient cars from Washington DC to Detroit as a part of the Hybrid Electric Vehicle Challenge (HEV) Program. He drove a winning Saturn conversion fueled by ethanol and electricity. The one-liter engine delivers the performance of a standard 3-liter variety with about half the fuel consumption. Info on the program may be obtained from SAE's Web Site (<http://www.sae.org>.)

**The Great Lakes Electrathon Association** in their latest newsletter reported on the May 24 Event. Twenty four cars were entered, 20 made it through inspection to the starting line, 18 remained when the flag was dropped, and 16 finished the 1-hour race. The winning entry from Lake Orion High School covered 32.5 miles. We look forward to a report on the June 7th event.

**SEVA, the Sacramento group** in their May newsletter reported on the display of a Ford Ranger conversion at the Capitol. The pickup features a 90 hp, 3-phase induction motor, 39 eight-volt sealed lead acid batteries in a 312-volt system, a 23 kw on-board charger requiring a 240-volt, 30-amp supply circuit, and a \$ 32,795 price.

Their June newsletter described a solar-powered "Solarport", a 128 kw facility for charging electric cars. Shaded parking for 75 cars is located underneath the solar array. The facility supplements four existing charging stations at the airport. Three charging spots at a Sacramento city parking garage are also regularly used. A SEVA member has leased a Honda EV Plus. Seven members drove EV's in the May clean-air commute event.

**VEVA, the Vancouver Association**, in their May newsletter provided an update on fuel cell work of Ballard Power Systems. They now have a contract with Mercedes for cooperative development for auto applications, particularly improvement of the semipermeable membrane that separates the cathode and anode in the cell. The membrane is degraded by leakage when methanol fuel is used. They also report an EV developed by Suburau that has been sold in Japan but does not meet US standards.

**GLEAN (EV News)** in their May newsletter featured a description of two new EVs developed by Transportation Design & Manufacturing (TDM) that were initially exhibited at the April 8th EV Conference in Detroit. The first is a four-passenger car using a Westinghouse brushless dc 43-hp motor and a 290-volt nickel-sodium high temperature battery that has been used in Europe. Vehicle range is 140 miles/charge. The second car is the same, but uses 28 Delco valve regulated, 12-volt, sealed lead-acid batteries used in GM's EV-1 initial production. A government-industry partnership sponsored the \$ 5.2-million development costs. The issue also has a report on presentations made at the conference, the APS Event results, and the status of the Partnership for a New Generation of Vehicles (PNGV). The issue also contains info on the Ford hybrid supercar, the P-2000, that is expected to get an 80 mpg equivalent. If you want to keep current on EV developments, an EV News subscription at \$ 40/year is recommended (6335 York Road, Pataskala OH 43062-7750).

## NISSAN AUCTION REQUIREMENTS

### A. The following auction requirements were approved at the May meeting.

1. Only FVEAA members as of 4/11/1997 are eligible to submit bids.
2. A suggested minimum bid is \$ 5300. The final decision will be made by members attending the June 20 meeting. \$ 4700 is required to redeem Participation Shares.
3. Written bids submitted by mail must be received by FVEAA President Ken Woods by 4 PM Friday, June 20. Write NISSAN BID on the envelope.
4. Bids may also be given to President Woods at the June 20 meeting by 7:30 PM.
5. Bids will be opened at the meeting, announced, and discussed. Members present will evaluate the bids received and authorize a sale or reject all bids.

### B. The Car

Some items have not been completed. These will be the responsibility of the new owner:

1. Thirty sealed gel cells, each a 12-volt unit, now make up the 120-volt battery system. The car was designed for a 96-volt system using sixteen 6-volt Type GC-2, golf cart style, flooded cells. The car's performance using the present battery system was impressive so a decision was made to sell the car with these gel cells. These will require replacement in the future. Standard GC-2 batteries for a 96-volt system cost about \$43 each. To retain a 120-volt system, fifteen 8-volt batteries may be used. These are available for \$78.30 each from Battery Service Corporation.
2. The rear springs should be replaced to accommodate the additional weight of batteries located in the trunk. Dimensionally equivalent front springs for a Nissan could be used or the rear units could be customed-applied by Joliet Spring Co. Estimated cost for this work is \$ 150.
3. No heater is provided in the present car. A 120-volt nichrome element could be installed in the heater box and wired to the propulsion battery. Estimated cost is \$ 50.
4. Brake pads should be replaced and wheels aligned. Estimated cost is \$ 125.
5. A new set of tires will probably be needed.

William H. Shafer  
June 13, 1997

