



EAA STATE GRANT APPROVED

WITH THIS \$170,000 GRANT FROM THE CALIFORNIA ENERGY COMMISSION AND YOUR HELP, MONEY, LABOR, PARTS & SUPPLIES WE WILL DESIGN AND BUILD THE WORLDS FIRST FULL PERFORMANCE CLEAN AIR VEHICLE AND DEMOSTRATE IT'S SUPPORT OF A SOLAR RESIDENCE AND THE SOLAR RESIDENCE ABILITY TO CHARGE THE VEHICLES BATTERIES. ALL TECHNICAL INPUT WELCOME! PLEASE WRITE OR CALL NOW! (415) 591-6698 or (408) 248-2588

VAN PROGRAM ON THE MOVE

Conceptor Inc. a division of Magna Industries has been chosen to start production of the G-Van in 1990.

The first Chrysler TEVan with the Powerplex sodium sulphur battery installed has been

delivered to the TVA test center for on road testing.

Two Powerplex battery systems have been delivered to Ford for use in the ETX2 program (AC drive Astro Van).

Is 'greenhouse effect' here?

Expert blames phenomenon for hot weather of '80s

Mercury News Staff and Wire Reports

The global warming known as the "greenhouse effect" has arrived and is to blame for the unusually warm weather of the 1980s, a leading climate expert told Congress on Thursday.

There is no evidence that the greenhouse effect directly triggered the drought and heat wave now sweeping much of the United States, said James Hansen, a climatologist at NASA's

Goddard Institute for Space Studies in New York.

But he and other scientists said the weird weather is a sample of what we can expect if the warming trend continues.

"The greenhouse effect has been detected, and it is changing our climate now," Hansen testified at a hearing of the Senate Committee on Energy and Natural Resources. "... It is time to stop waffling so much and say that the

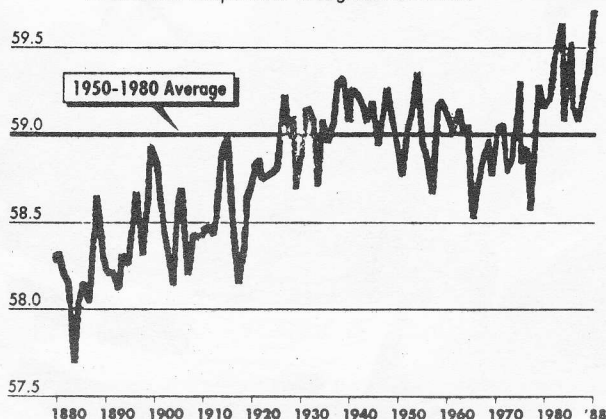
evidence is pretty strong that the greenhouse effect is here."

Although scientists have theorized about the greenhouse effect and issued vague projections of rising temperatures sometime during the next century, Hansen is the first to proclaim the phenomenon's arrival.

The Earth has been getting warmer for the past 130 years, and the four warmest years on record have been in the 1980s, Hansen said. And unless there's a major break in the heat spell, he said, this year will be hotter still.

GLOBAL WARMING TREND

60.0° How the average global temperature for the first five months of 1988 compares with temperatures for the previous 11 decades. Temperature in degrees Fahrenheit.



Source: The New York Times; James E. Hansen and Sergei Lebedoff

Burning of fossil fuels tied to global warming

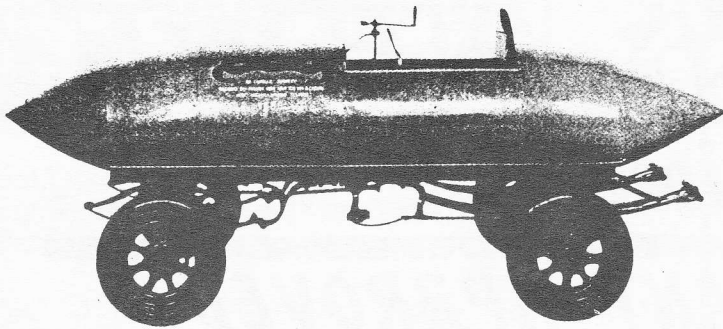
Mercury News Staff Report

Q What is the "greenhouse effect"?

A The greenhouse hypothesis, first described in the 1800s, predicts that gases given off by the burning of fossil fuels — coal, gasoline and oil — will warm up the Earth's climate.

The gases, primarily carbon dioxide, act like greenhouse windows by letting sunlight onto the Earth's surface but not letting heat escape back into space.

Today, climate experts are increasingly willing to declare that the greenhouse effect has arrived, since studies of historical data have shown that tem-



Jenatzy's "La Jamais Contente"

Photo courtesy of the Musee National du Chateau de Compeigne

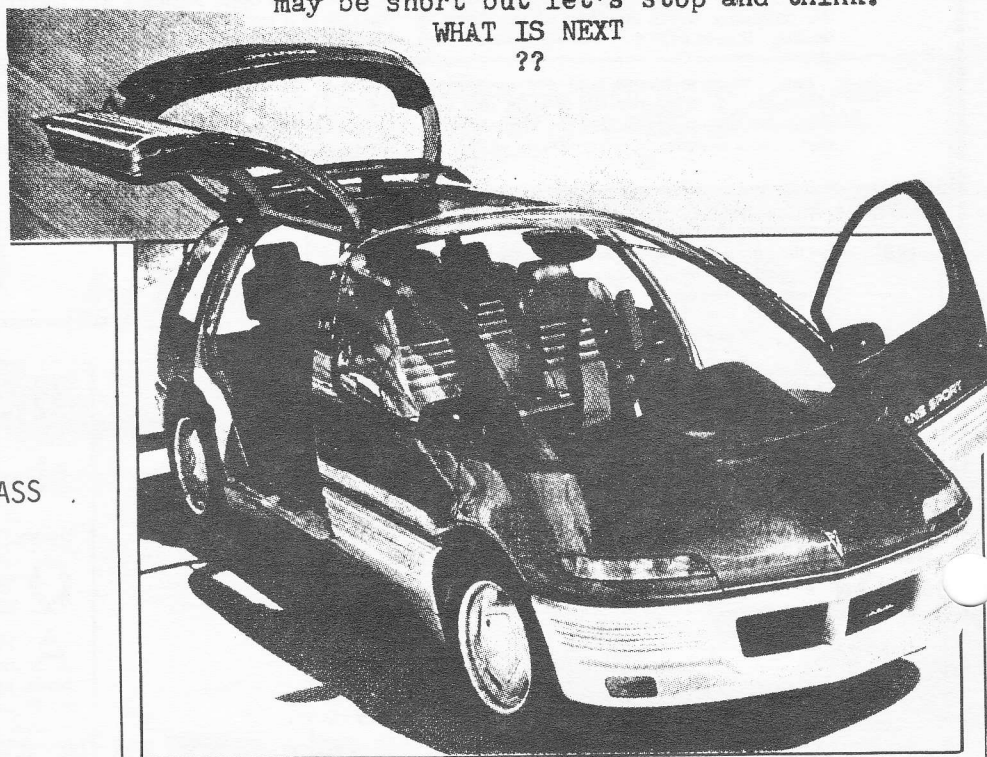
Let me take you for a walk down "Memory Lane". The year is about 1910. We will walk to the Stable and rent a horse and buggy for an outing. Our short trip will take us several hours this day. This year is about 1913. We see a buggy, without the horse, silently transporting our friends from one place to another. This seems to be more fun and faster. This was an electric car. Before much time passed this car had a partner on the roads for our friends. This was a gasoline burning car which proved to go farther and faster. Next we will find that it is not long before our friends used gasoline engines to take us all into the sky at an even greater speed and greater distances. We will find some of our friends were encouraged to explore farther into the sky with rockets.

By John Newell

Electric vehicles were racing as far back as 1889. Jenatzy, a Frenchman, built a machine called "La Jamais Contente". His vehicle was claimed to have a top speed of 75mph and set a land speed record, for that era, of 68mph.

Then we find satellite vehicles developed with tremendous speeds and distances. Next we find space ships with even greater speeds and distances into the sky. We understand that out there in space our friends are developing and advancing a limitless source of renewable energy, solar energy from photovoltaic cells. Now when our friends travel out into space and rendezvous there they can visit awhile. The year is 1988 and back on earth. We got a taste of this limitless solar energy. We intend to use this energy for transportation on earth with cars, boats, airplanes and eventually trains and buses. Today we are finding that there can be a surplus of solar energy or electricity right in our home solar systems that can be utilized for personal, day to day, transportation. Our memories may be short but let's stop and think.

WHAT IS NEXT
??



POSSIBLE PHASE II VERSION OF
EAA'S CLEAN AIR VEHICLE.
COMPOSITE VAN CHASSIS SPORT,
UTILIZING CARBON FIBER KEVLAR
AND BIAXIAL LINEAR ROVING FIBERGLASS
IN THE VINYL-ESTER MATRIX.

Ed-CWE

CLEAN AIR BILL INTRODUCED

3

Rep. Vic Fazio (D) Sacramento area has introduced "The Clean Air Fuel Conversion Act". The main point being that all federal fleets be converted starting 1993, at the rate of 10% per year. (Ed Note) not nearly fast enough but at least it is a start. Write to Rep. Henry Waxman House Chair

Health & Environmental Sub Comm., 2418 Rayburn H.O.B. Washington, DC 20515 and/or Rep. John Dingell, Chair Energy & commerce Comm. 2221 Rayburn H.O.B. Washington, DC 20515. Ask that the Fazio Bill be included in the "Clean Air Act Reauthorization". Thanks Clarence

HOW CAN I USE MY SURPLUS POWER FROM MY SOLAR HOME TO CHARGE MY CAR

Jerry Fetterman of Yellow Jacket, CO

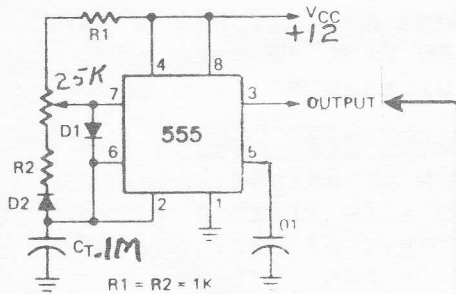
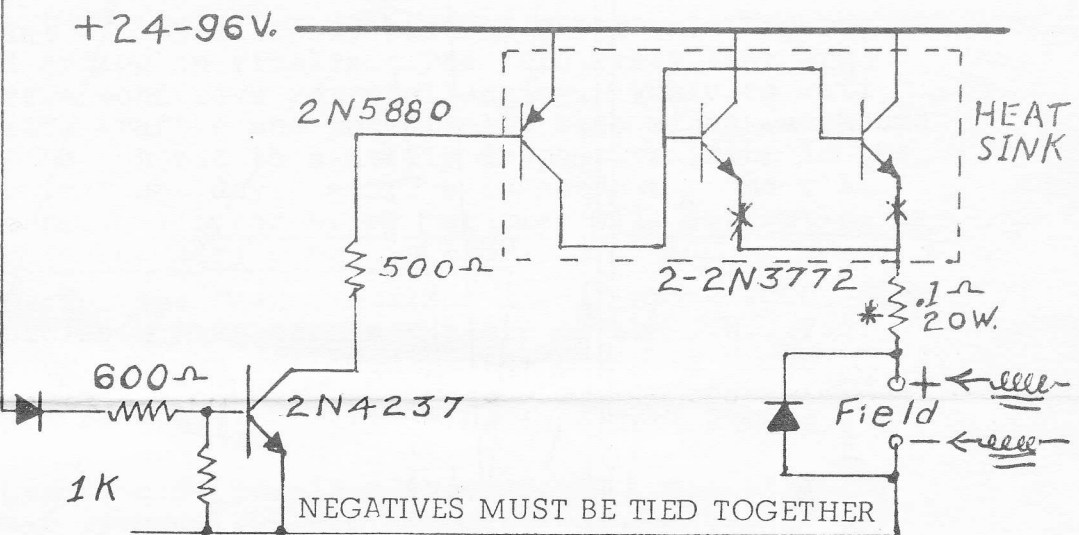


FIG. 17—ASTABLE MUTIVIBRATOR with duty cycle variable from 0 to 100% and frequency constant.

In some applications, we may need to vary the duty cycle of a multivibrator from about 0 to 100% while holding the frequency constant. In this case, replace R_1 and R_2 with a single linear-pot as in Fig. 17. Resistors R_1 and R_2 —approximately 1000 ohms each—are connected in series with the pot. R_1 limits the maximum current through the discharge transistor. Resistor R_2 establishes a minimum value for R_1 and to compensate for the addition of R_1 to the network.

I believe this circuit would work for charging from solar home if you use some induction in series with batteries, like a 12v winding trans former.

+24-96V.



NEGATIVES MUST BE TIED TOGETHER

If you need more than 10 amps use higher rated transistors & beta match, seperate emitter resister adjusted for equal current sharing. With high frequency transformer and diode bridge it shurly would be fine John Wasylina can design a transformer for any system. We need to know your car voltage and your home voltage to realy come up with a good answer.

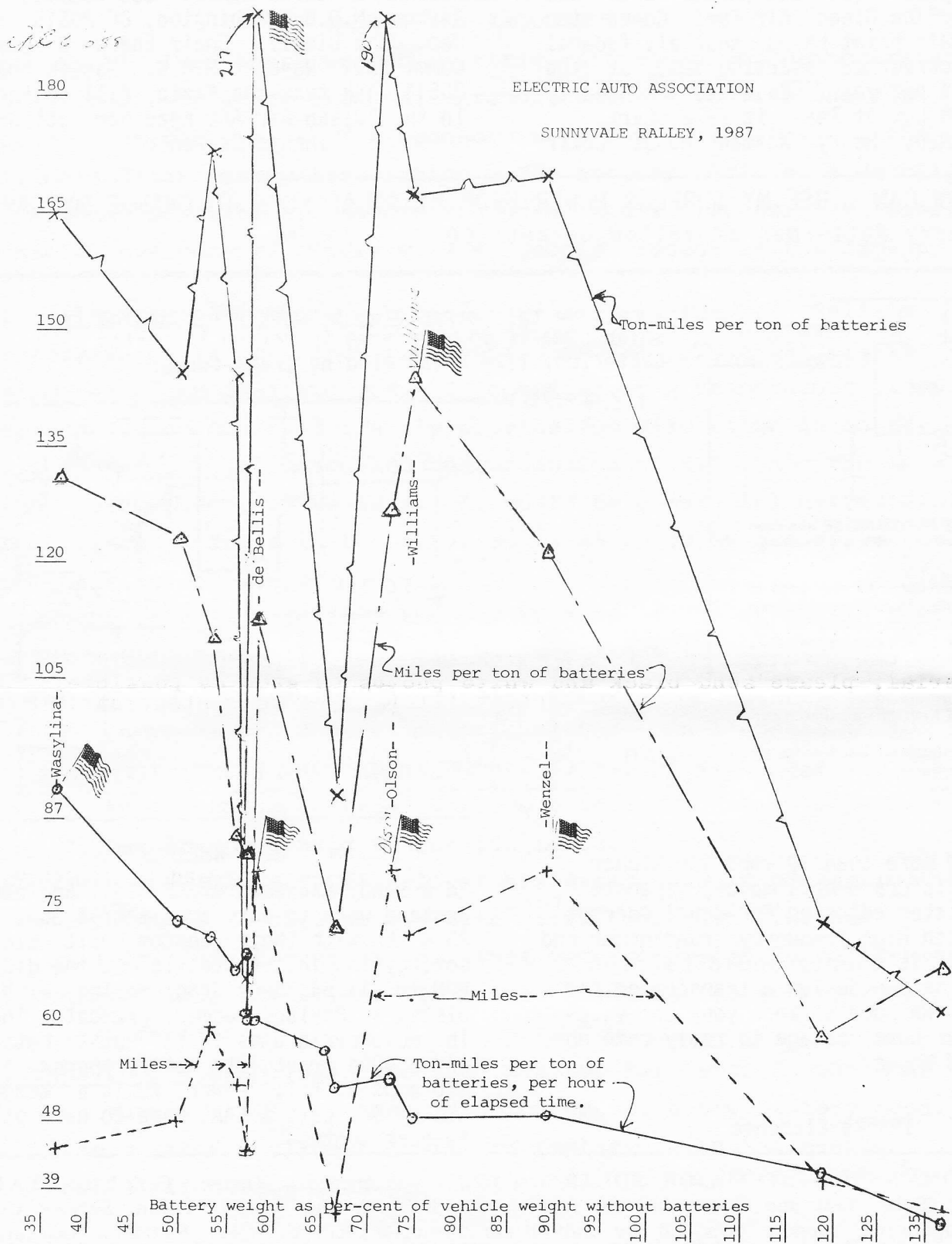
Thanks Clarence

HOT WHEELS

Ed & Randy Rannberg of Eyeball Engineering Fontana were in our area Sat. & Sun. June 25 & 26 with their custom built electric motorcycle. This fantastic machine did 109 MPH in 11.54 Sec. drag racing with ICE bikes, at Bayland raceway Fremont. The 550 lb. motorcycle uses 16 12V Pulsar batteries and a 4001 prestolite motor, approx. 125V @ 400 amps at full power. Ed is a member of EVC of So. Cal. & EAA. Hope to have picture in next month.

ARIZONA'S NEWEST MAJOR SOLAR test facility was opened in Tempe. Called the STAR Center (Solar Test and Research), the facility was built by the Arizona Public Service Co. with operating support provided by Salt River Project, Electric Power Research Institute, Arizona State University and Western Energy Supply and Transmission Associates. The seven solar arrays at the \$670,000 test center are fitted with solar panels from various manufacturers and are constantly monitored by computer in an effort to show which panels will be best suited for Arizona's climate. Taken from the Tucson Daily for February 13, 1988, and submitted by Luci Webb.

ELECTRICITY IS THE ONLY CLEAN AIR FUEL



By David Cole-East Bay Chapter



May 19th, 1988

Dear Clarence Ellers

"The America's Solar Cup", the first solar/hybrid vehicle competition in the United States, will be held September 17th, 1988 in Visalia, California.

We would like to see your vehicle included in this event. Since this is the first solar race ever to be held in U.S., media attention will be excellent.

The course will consist of 185 miles of central California highway system, beginning and ending in Visalia. The relatively flat and sunny terrain will prove conducive yet challenging. Vehicles will be required to negotiate traffic and potentially high winds (although not likely), and will be subject to a safety inspection prior to the race. The event will last one day - sunrise to sundown - and will be of a rally-type format. All competing vehicles will automatically qualify for a major cross-country event in 1989.

Entry fee will be \$50. for the "owner/builder class" and \$1,000. for "commercial class" vehicles. Make checks payable to the I.H.P.V.A. If you wish to have your vehicle included in the pre-race press material, please send black and white photos as soon as possible. Maps, rules and further information will be sent to contestants.

The America's Solar Cup is made possible through the cooperation of the International Human Powered Vehicle Association, the California Department of Transportation, and the City of Visalia, California.

This event is designed to display the vehicles' technical capabilities, to increase public awareness through media attention, and to nurture a healthy competition between teams.

If I can be of assistance in any way, please call or write.

Yours truly,

Robert M. Cotter
Race Director

Send all race correspondence to: P.O. Box 158
Waldoboro, ME 04572
Tel: (207) 832-6925

EV EXHIBIT AT ARGONNE LAB

On June 11, 1988 there were 8 electric cars shown and demonstrated at Argonne Laboratory grounds. Argonne cooperated with the two sponsors of the event. The sponsors were Fox Valley EAA and the Illinois Solar Energy Association. The seminar included a description of Argonne activities, battery research, and a discussion of electric vehicle development. There were 44 people present at the seminar.

Al Chilenskas of Argonne Lab discussed the Lithium/Iron Sulfide battery which is now ready for testing at TVA. This battery is being funded by EPRI and DOE. It operates at a temperature of 860 degrees F. and could ultimately provide 200 mile range in an EV. Bill Shafer (FVEAA) discussed the economics of EV's, and the idea of a "Petro-Electric" vehicle. It would be a parallel hybrid, using electric drive in the city, and a 25 to 50 HP gas drive for "out of city" driving.

Ken Woods (FVEAA) described the bad affects of use of fossil fuels on our environment, and what can be done about it.

- A. Raise the price of gasoline.
- B. Increase the federal motor fuel tax. An increase to 60 cents per gallon would reduce usage, provide research funds, and encourage EV production.
- C. Develop a hybrid EV for public use.

Bob McKee (DOE CONTRACTOR) told of his experience in converting a total of 24 cars to electric drive. He just finished a van for Chrysler Motor co. This van is powered by Eagle-Pitcher nickel iron batteries. It is now being tested at the TVA test facility.

S. Obha (DOE CONTRACTOR) discussed the two Ford econorts which he is showing. One of them is going to get a new battery soon. The current "gel-cells" will be replaced with Eagle-Pitcher nickel/iron batteries.

Bill Becker (Prof. of Ind. Design, Univ. of Illinois) told about and demonstrated his Photovoltaic driven bicycle.

John Stockberger (FVEAA) demonstrated a GE electric tractor towing it's power source, a 1KW solar panel which was approximately 8 ft wide by 40 ft. long.

Lee Hemstreet, EAA-Santa Clara

EV Marketplace

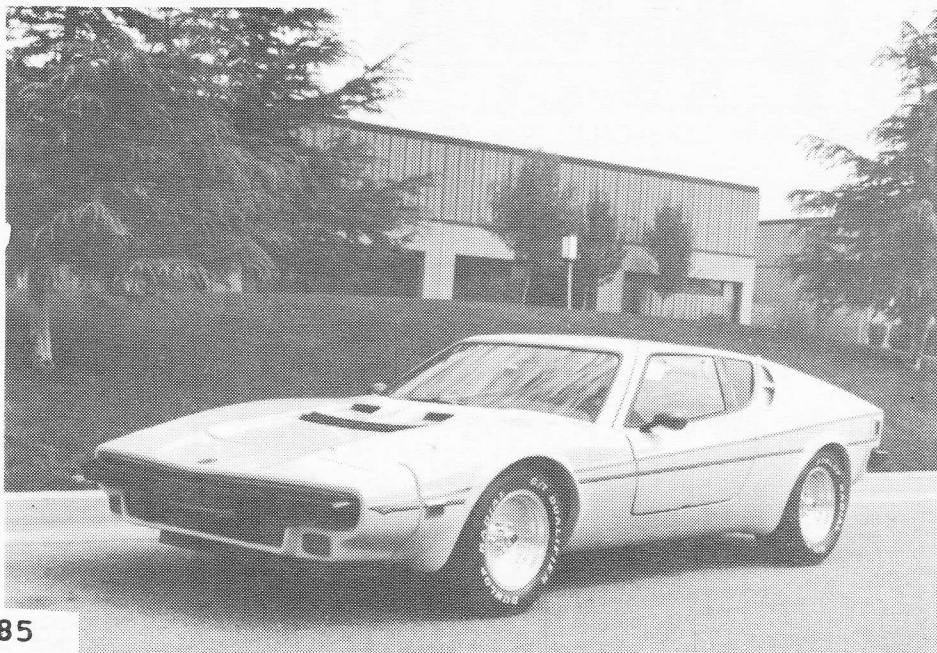
1981 Electric Aquila

Custom Kit Car
1969 VW Chassis
Aquila Filberglas Body
Electric Conversion
Transistorized Controller
Prestolite Electric Motor
Adapter - by: John Wasylina

Build By: Al Hardage

DC to DC Converter
96V Charger
96V - DC Power System
16 - 6V Alco Batteries
Top Speed: 75 Miles
Range: 90 Miles

Price: \$5,000.00 (408) 734-8385



FOR SALE

LESTRONIC BATTERY CHARGERS

!-96V.-12V. Output-110/220V.

Input-Automatic-\$300

48/96V. Output-110V. input, Timer-\$150.

AIRCRAFT GENERATORS

1-2CM76 \$100, 1-Jack & Hines G23, with adaptor plate, bell housing, crank shaft stub. Ready to mount in vehicle-\$150.

OPEL-GT Electric Auto-108Miles on Single charge, Professional Conversion, Power Brakes, Automatic Charger, Many Special Features-\$3500.

CALL: Mike (206) 838-9370

FOR SALE

Brand-New Sinclair C5 Electric Motor
Scooter-250 Watts-2100 DM (Marks)=US \$1200.
Bernhard Sept % Hewlett Packard GmbH,
Herrenberger Str. 110/130, D-7030
Boblingen, West Germany, Telefon 0 70
31/14-0.

Lockhorns / Bill Hoest



"I HATE TO DISTURB YOU, LEROY,
BUT YOUR CAR IS ON FIRE."

JOHN ANDERSON who recently left ALCO can now supply your EV battery needs at the same prices and top quality as when he was at ALCO. He is presently at U.S. Battery Co., 2750 Raymond Ave., Long Beach, CA 90806, (213) 424-6609. Item from EVA of Southern California Newsletter, Nov. 1987.

ADS must be received with payment by the 10th of the month, for the following month's issue. AD rate is min. 1 to 5 lines \$5.00. 1/4 Pg. \$15, Full Pg. \$50.00, Full Pg. 2 sides \$80.00, WANTED - TRADE - FOR SALE, etc. Mail to EAA 1249 Lane St. Belmont, CA 94002



JULY 31: S.E.V.A.-SEATTLE Electric Vehicle RALLY-Green Lake-CALL: Ray (206) 542-5612.

JULY 31-Aug.5: 23rd Intersociety Energy Conversion Engineering Conference (IECEC), Denver, CO.

AUG. 13: EAST BAY RALLY-CALL: Scott (415) 798-0909.

AUG. 21: EVA-Electric Vehicle Assn. of So. Cal. RALLY-CALL: Ken (714) 734-0198.

AUG. 27: DEVC-Denver RALLY-CALL: (303) 442-6566

SEPT. 17: 16th Annual EAA International RALLY-Shore Line Park Mtn. View, CA-CALL: Clarence (408) 296-8532 or Lee (415) 493-5892.

SEPT. 17: "The America's Solar Cup" Visalia, CA-International Human Powered Vehicle Asso.-(207) 832-6925-Box 158 Waldoboro, ME 04572

NOV. 13-16: 9th International Electric Vehicle Symposium-Troonto, Harbour Castle Westin Hotel-CALL (416) 746-7360.

EAA Chapters

ARIZONA: Phoenix
Lee Clouse 602 943 7950
P.O.Box 11371
Phoenix, AZ 85061

CALIFORNIA:
Burbank
Irv Weiss 818 841-5994
2034 N. Brighton #C
Burbank, CA 91504

East Bay
Scott Cornell 415 798-0909
60 Alan Dr.
Pleasant Hill, CA 94523

North Bay
Gordon Schaeffer 415 456-9653
211 Bellan Blvd.
San Rafael, CA 94901

Peninsula
Mae Bensen 415 992-5453
8 San Juan Ave.
Daly City, CA 94015

Sacramento
Carl Metcalf 916 486-0321
3654 Bausell St.
Sacramento, CA 95821

San Jose
Don Gillis 408 225-5446
5820 Hern St. #3410
San Jose, CA 95123

Santa Clara
Lee Henstreet
787 Florales Dr.
Palo Alto, CA 94306

OREGON: Willanette
Leslie Brundidge 503 390-3871
4040 Gary St. NE
Salem, OR 97303

TEXAS: Houston
Ken Bancroft 713 729-8668
4301 Kingfisher
Houston, TX 77035

WASHINGTON: Seattle
Bryan Lowe 206 632-4496
5011 9th NE
Seattle, WA 98105

WISCONSIN: Milwaukee
Dave Pares 414 481-9655
3251 S. Illinois
Milwaukee, WI 53207

NEW JERSEY: Hackensack
Kasmir Wysocki 201 342-3684
293 Hudson St.
Hackensack, NJ 07601

Vancouver, B.C.
VEVA 604 987-6188
543 Powell St.
Vancouver, B.C. V6A 1G8

NON-AFFILIATED GROUPS

CANADA
Ottawa, Ontario
Fred Green
Box 4044 Sta. "E" K1S 5B1
Ottawa, Ontario, Canada

NEW MEXICO: Albuquerque
Mike Lechner 505 848-2331
PNM Alarado Square
Albuquerque, NM 87158

Southern Cal-EVA of SC
Ken Koch 714 639-9799
12531 Breezy Wy.
Orange, CA 92669

DENVER CO DEVC
Genny Clark 303 451-5051

Fox Valley IL 312 879-0207
John Stockberger
25 643 Nelson Lake Rd.
Batavia, IL 60510

Eastern-EEVC
P.O.Box 717 215 696-5615
Valley Forge, PA 19482

For information on forming a chapter in your area write Electric Auto Association, 1249 Lane St. Belmont, CA 94002. For a sample copy of the newsletter send SAE #10 envelope.
PHONE (415)591-6698

EDITORS: - Walter Laski - John Newell - Bill Palmer - Paul Brasch - COMPILED AND PUBLISHED by Clarence Eilers. SEND IN YOUR PERSONAL AND CHAPTER NEWS AND COMING EVENTS. ARTICLES-Comments etc. all correspondence to address below

Electric
Auto



NEWS

Association

JULY 1988

1249 Lane St.
Belmont, CA
94002

Address Correction
Requested

NON-PROFIT
ORGANIZATION
U.S. POSTAGE
PAID
SUNNYVALE, CA
PERMIT NO. 420

HELP!! PROJECT-X
State of art HYBRID



PLEASE
TIME DATED MATERIAL - DO NOT HOLD

DODGE CARAVAN