



CURRENT EVENTS

October/November 1991

Promoting the Use of Electric Vehicles Since 1967

Vol. XXIII No. 9

RALLY '91 - BEST YET!

by Paul H. Brasch

'The best of everything' despite some big challenges, describes our 19th Annual Rally in Sunnyvale on September 21, 1991. We had more people at our Rally than ever before. An estimated 2,000 throughout the day came to see, enjoy and learn about EVs of all kinds. We had booth displays of equipment, kits and services. We had the FMC M113 electric powered armored personnel carrier on display. We gave hundreds of rides to an enthusiastic public and many also enjoyed the Electrathon competition. (See page 4)

For the first time in perhaps a decade - we had some real TV coverage. KGO TV's Bev Mikalonis showed up to do just a short piece, but wound up shooting for more than an hour. This showed up as a very good story on the 11pm news of 2 minutes and 10 seconds duration. We also had the local (Ch 54) PBS station there shooting for a *Silicon Valley Report* story as well as newspaper reporters.

As late as 4 pm, we still had people lined up for rides. I don't recall our ever having this level of interest shown before. With the *Monterey*, *Vortex*, *Scott Cornell's Ghia*, and *Mike Brown's freshly repainted Aztec* in the Rally, we had plenty of snazzy good looks, and great performances, too. The top runners went more than 80 miles in rough and tumble, hard around-town stop-n-go driving. Some of the drivers were turning in lots of 9-minute laps including stops for lights and passenger changes. Darrell Clark turned in one 8 minute lap, which means that he must have been approaching freeway speeds on the backstretch. In spite of this, he managed more than 80 miles to take second place. Bill Williams, with very consistent 10 minute laps, managed to get in an extra lap before the lunch break and one more just before the 4 pm close. This exceeded Darrell's 19 laps by 2 for 21 and a 90 mile distance on this rally.

Third place was a squeaker as both Scott Cornell and Mike Brown had 18 laps

covered by the 4 pm end. However, Scott had quit running by 3:46, but Mike still was running at the end. He had misjudged his time, energy and position and took an unofficial lap after the 4pm end to demonstrate his energy reserve. He really smoked that one in 9 minutes flat, but it was unofficial and since our rules encourage covering the most laps in the least elapsed time, Scott, who had exhausted his battery pack earlier, but before the official end time, was awarded third place. As they say in most sports, "there is always next year". By the way, Mike supplied the parts and the EV expertise for the second and sixth place cars as well as his 4th place showing. *What a tour de force!*

This was the first time that we have given cash prizes as well as awards for the top performers. With first place worth \$100 and a DC/DC converter worth \$250, I had hoped for well over 20 entrants. Perhaps the late arrival of the rally information and the last minute change of location lost us a few. The August/September Current Events was mailed at the start of September and took an agonizing 10-35 days for the Post Office to get around to delivering to some members. The Pony Express could do better than that!

I want to thank all the people who worked and slaved to put on this event. A special thanks goes to those who came to the bi-weekly Rally Committee meetings. We got a very late start in June and had to make up for it. It wasn't easy, but the Munros, (Hal and June) attended each meeting along with Pat Hardage who worked tirelessly on the Rally and the Symposium and Brunch. Others who helped make it happen and whom we could not have done without are Lee Hemstreet, Larry Burriesci, Chuck Olson, Dudley Lewis, Len Goodell, Bruce Brooks, and Alan Downs.

A special thanks to our judges and tech inspectors, R.G. Murray, D. Spotten, D. Hall, G. Fowler and F. Carroll. Additional

Continued on page 2

EDITOR'S CORNER

Once again, we have a combined issue of Current Events of October and November. With the planning for the rally, the symposium planning, the publicity efforts and the event, we have decided to combine all the news into this month's combined issue of Current Events. Inside you will find a short summary of the '91 Symposium and a two page story by guest writer, Steve Van Ronk, on the Electrathon.

In other recent events, EAA members were at S.E.E.R. in Willits on August 10th & 11th. (See photos) The EAA, Electro Automotive and California Electric Cars shared booth space at San Jose's Whole Life Expo, September 13th, 14th, and 15th at the new San Jose Convention Center. (See photo)

Then just 2 weeks after the Rally, on October 5th, we participated in the Solar City Fair 1991 in downtown San Jose. This event was primarily put on by the NCSEA Northern California Solar Energy Association. I am proud to say that the biggest single attraction was the rides for the public by our electric vehicles. We also reached a very different audience at this event in downtown San Jose. (See photos)

What a spring and summer this has been for EVents!

Continued on page 12

INSIDE

- 3 EAA Symposium
- 4 Electrathon Racing News
- 6 Team Tuscon
- 7 European Electric Car
- 8 Donate you EV
- 9 Tax Credit for EV
- 9 Nissan Unveils Prototype
- 9 New Bylaws & Board
- 10 EAA - Sacramento
- 11 Help Wanted
- 12 DeAnza Hosts Exhibit

Rally '91

continued from Page 1

thanks to Rich Stiebel and the Hams for their invaluable assistance, H. Jacobs, G. Hopkins II, R. & R. Fraser, A. Anderson, W. Rees, V. Tallman, R. Cook, S. Furman and T. Schert. I'm sure that I have left out someone. Also thanks to the City of Sunnyvale for their help and to Lockheed for their permission to use their parking lot.

This was where we had a bit of a challenge. Lockheed Public Relations department was unaware that there were plans to repave and paint the planned parking lot at 1184 N. Mathilda on the day scheduled for the rally. When our crew showed up in the wee hours, there was no parking lot to use.

Fortunately, we were allowed to move across the street to another large parking lot of theirs. Unfortunately, this caused a

bit of confusion with our layout plans and schedule, causing us to still start an hour late despite our best efforts to start on time. Also at least one poor sole came, couldn't find the Rally and evidently left.

Despite some problems, it was the biggest and best rally and show we ever hosted. Next year will be our 20th anniversary. Let's have it be twice as big and successful. ■



Results of 1991 World's Oldest Electric Car Rally Presented by Silicon Valley Chapter of EAA

Award	Place	Car	Name	Official Laps Completed	Miles Traveled	Stop Time	Elapsed Running Time	Desc.
4 Wheel Class 1st	1	7	Bill Williams	21	90	still running @ 4 pm	216 min.	Honda Civic Wagon
	2nd	2	49 Calif. Electric Car, Inc. Darrel Clark	19	81.3	3:53pm	191 min.	New manuf. Fiberglass
	3rd	3	12 Scott Cornell	18	77	3:46pm	198 min.	VW Ghia
		4	15 Mike Brown Electro Automotive	18 +1*	77/ 81*	still running @ 4pm	211 min official	VW Fiberglass
		5	11 William Kuehl	16	68.5	4:05		Pontiac
		6	14 Shari Prange	14	60	3:39		VW Rabbit
		7	6 Chuck Olson	13	55.6	2:52?		Saab
		8	1 Lee Hemstreet	12	51.4	2:49		VW Bug
		9	10 John Newell	12	51.4	3:07		Ford Escort Jet
		10	17 Jim Danaher	10	42.8	2:29		Grumman Van
		11	3 Stan Skokan	10	42.8	2:35		Ford Escort Jet
		12	9 Jim Van Scyoc	9	38.5	2:20		Vanguard
		13	8 Larry Burriesci	9	38.5	3:07		Plym. Arrow
3 Wheel Class 1st		14	18 Dann Parks, Steve Pombo Dolpin Vehicles	8	34			3Wh Fiberglass 12v bats.
		15	20 Charles Paglee	6				Ford
		16	4 John Wasylina	5				Renault
		17	19 Gary Hargreaves	4				VW Fiberglass
		18	5 Michael Zampaglione	1				VW '64
		19	13 Dudley Lewis	show only				VW Rabbit

* Still running at 4pm close. One fast unofficial lap after official end.

EAA Symposium '91

As you can see from the speaker list, we had the biggest and best line-up ever. Unfortunately, this event started a bit late because of some difficulties with the Hotel and the equipment, but the caliber of the speakers made up for it. We had several requests to make available some of the charts and at least audio tapes of the respective talks. I am looking into what we may be able to make available at this time.

Dr. Reuyl started us off with an update on the EAA Hybrid Vehicle project. Ambrose Manikowski told us of Dr. Billings reversible hydrogen fuel cell powered electric car that had been on display at S.E.E.R. (See photo) Then Dr. Richard Post reprised his spring talk at Stanford for us on the electro-mechanical battery. Next Marca Doeff gave us a detailed view of the Lithium-Polymer battery developed at L.B.L. And last, but by no means least - Chuck Lemme of Team Tuscon made us all believe that 500+ mph in a specialty EV just might happen. Their team has certainly done their homework on all of the problems involved and how to address them. When they do it, that should be the needed "kick in the pants", to get the world's attention.

After the symposium and brunch, I had the honor of presenting this year's awards to the winners. The first award presented was the Keith Crock Memorial Award for Technical Achievement. This is presented to someone who has made an outstanding contribution to the advancement of electric vehicles. This year, the award went to a very surprised and deeply touched Dr. John Reuyl for his tireless work on the very large EAA Hybrid Vehicle project.

Bill Williams accepted the first place endurance award and commented that electric cars don't go 100 miles on a charge, but he had done better than 90 miles and was turning 10 minute lap times. ■

It certainly seems that he could have coaxed 100 out of it. - Pb

1991 EAA Symposium Speaker List

Dr. John Reuyl

Update on the EAA Hybrid Vehicle Project

Ambrose Manikowski of Lockheed

Hydrogen fuel cells - a long term solution?

Dr. Richard Post - Lawrence Livermore Laboratories

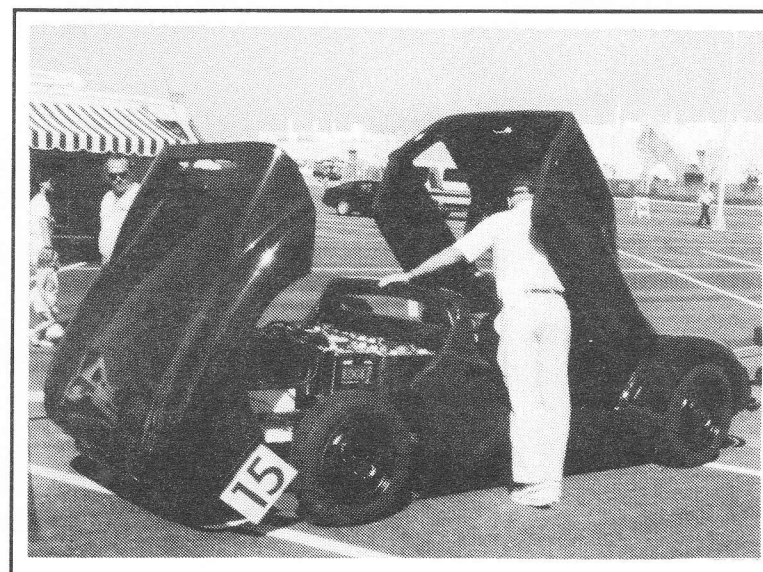
New designs for an Electro-mechanical battery

Marca Doeff - Lawrence Berkeley Laboratories

Lithium-Polymer solid re-dox: Is this the Perfect EV battery?

Chuck Lemme - Team Tucson

Plans for a new speed record: 400+ mph in an EV



Electrathon Racing News

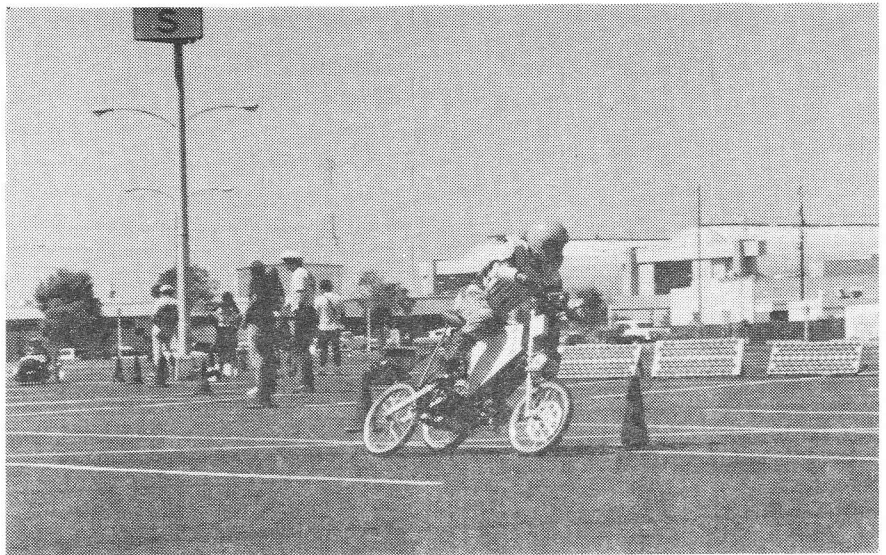
by Steve Van Ronk

On, Saturday the 21st of September, the fourth Electrathon competition was held in conjunction with the Silicon Valley EAA 19th annual rally.

Eight vehicles entered, consisting of two entries from Bob Schneeveis' team of Palo Alto, two from Clark Beasley's team in Los Angeles, the Doran Motor Co. from San Luis Obispo, Analay High School team from Sebastopol, and two vehicles from the East Bay team.

Both the East Bay and Schneeveis teams fielded new vehicles designed on the "lean" principal introduced by Ed Rannberg of Eyeball Engineering during the recently past 1st Electrathon Championship series. This represents a surprisingly fast response by vehicle engineers in innovative adaption of technology to the competition circuit. Electrathon rules require all vehicles to have three or four load-bearing wheels, and since each wheel in contact with the ground increases the potential for rolling resistance, a three-wheeler has a theoretic advantage. However, three-wheelers tend to be less stable in cornering than four-wheelers, thus the "lean machines" have been developed to provide better cornering ability.

Both Rannberg's first leaner, and the new Schneeveis leaner are constructed with independently articulated swing arms on the two rear wheels, allowing them to



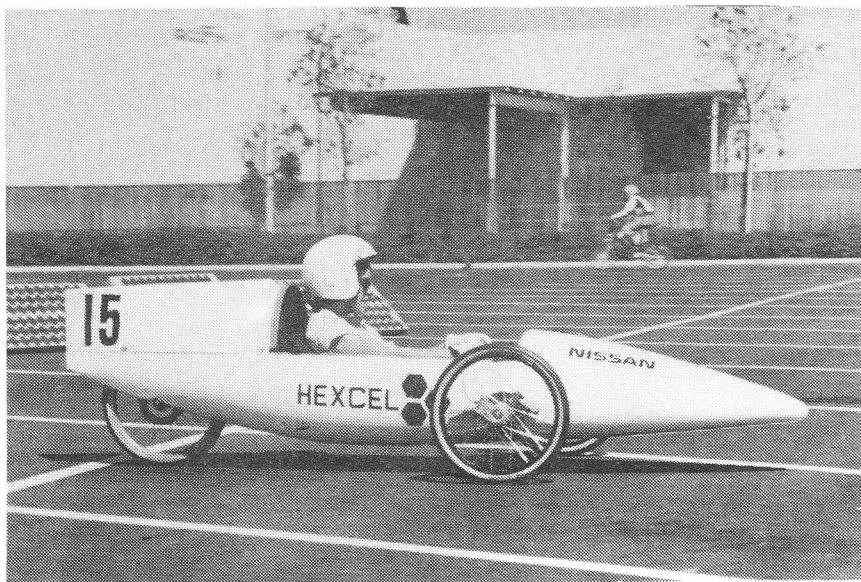
corner much like a motorcycle. Jim McGreen of the East Bay team took a different approach to building a leaner by articulating the center of the frame allowing the front wheel to lean, while the two rear wheels carrying the battery bank remains stable. McGreen's machine also seats with the drivers legs under and slightly behind the torso, similar to the body position of some newer Japanese motorcycles. McGreen's vehicle unfortunately blew a tire on its first lap and put him out of the race.

Noreen Riest of Sunnyvale became the first American woman Electrathon driver piloting the "Slingshot" design num-

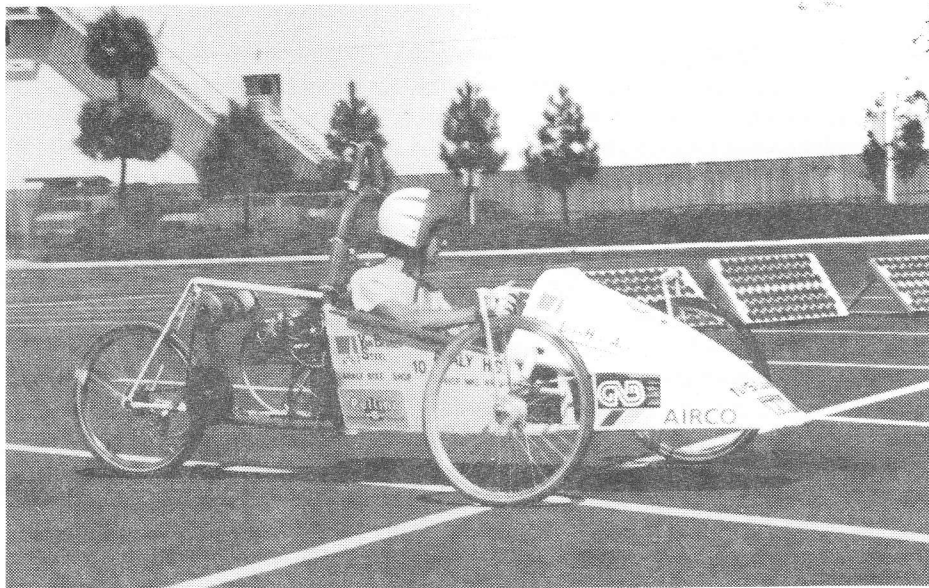
ber 15 for the Beaseley team. Dan Pliskin of Palo Alto, who has proved his expertise as a winning controller designer for Schneeveis, made his debut as a driver in Beasley's other vehicle number 5, the original "Slingshot" brought to the U.S. from Australia. Beasley was on hand as team captain, but did not drive. Bob Schneeveis, Palo Alto's prolific Electrathon builder also stayed in the background as team captain while two new faces piloted his vehicles to the victory circle. They were Eliodoro Aguilar driving the new #1 leaner, and Jose Lopez driving number 4, this years series winner. Both Eliodoro and Jose are from East Palo Alto, We hope to see them out on the track regularly.

Mike Wright from the Analay High School team has proven to be the first serious contender of the High School programs. This was his third Electrathon and first that his vehicle finished. Although Mike ran low on battery power about midway through the competition, he persevered right up to the checkered flag. Mike got great response from the crowd who cheered him to keep rolling, each time the vehicle crawled around the final laps.

The competition drew a fine crowd of spectators and its fair share of media, including a KPFA reporter joining us to interview drivers and team members for the entire race.



Continued on next page



Final Standings

- | | |
|-----------|--|
| 1st place | \$300 prize to Eliodoro Aguilar in vehicle no. 1 |
| 2nd place | \$200 prize to Rick Doran - vehicle no. 37 |
| 3rd place | \$100 prize to Jose Lopez in vehicle no. 4 |
| 4th place | Dan Pliskin winning a trophy in vehicle no. 5 |
| 5th place | Noreen Riest who won plans to the Doran sport roadster |
| 6th place | Pete Kelly who won plans to the Vortex EV in vehicle no. 51 |
| 7th place | Mike Wright who won a subscription to Solar Mind Magazine in vehicle no. 10 |
| 8th place | Jim McGreen who also won a subscription to Solar Mind Magazine in vehicle no. 44 |

Following the competition, members of the New Electrathon Racing Association gathered for a club meeting to discuss new rules and future competitions. Decisions were made to return to the single battery

limit of 60 pounds, eliminate any ballasting requirements to compensate for driver weight, and adopt two alternative safety standards for either closed vehicles requiring roll bars and seat belts, and open vehicles requiring motorcycle type protective clothing.

The coming years potential for Electrathon racing looks great with over 12 possible competitions in planning, including the beginning of a nation wide competition circuit. Clean Air Revival has already been approached by Washington state and Pennsylvania as well as our own California teams for assistance in organizing Electrathon competitions. Jean Karas of

Analy High School, working in cooperation with Clean Air Revival also introduced a scholarship program for continuing education assistance to winning high school Electrathon entries. The final discussion was centered on the proposal being developed for a Sports Car Club of America electric vehicle racing division. An initial draft of an SCCA EV division rules supplement was handed out for consideration and comment by Nick Hart, our reigning chief steward.

Both Clean Air Revival and the New Electrathon Racing Association are actively seeking new members to help with race promotions and logistics as well as vehicle builders, designers and drivers to join competition teams.

Those interested in creating or joining a team contact:

Bob Schneeveis, Palo Alto
Electrathon team - (415) 493-5806
Cleark Beasley, S. Calif. New
Electrathon Racing Assn. - (NERA)
(213) 539-9223

Steve Van Ronk, N. Calif. NERA
(415) 495-0494

Anyone interested in helping with competition organization, locating your local team, or other club activities, contact:

Clean Air Revival
55 New Montgomery, Suite 424,
San Francisco, CA 94105
(415) 495-0494 ■



Team Tucson Aims for New World Land Speed Record

Some may consider it just a publicity stunt, and it certainly will continue to create an enthusiastic response in the automotive and popular press, but Team Tucson's Electric Streamliner is more than that.

It is more than a sincere effort to break the world Land Speed Record for wheel-driven automobiles with an innovative design created by a team of engineers and racers who truly love velocity for its own sake, the karma of kinetic energy. It is more than a high tech affirmation of the power and potential of electric vehicle technology.

The Electric Streamliner does not signal the immediate end to an era dominated by fire-breathing, earth-shaking, internal combustion cars. It is rather the powerful symbol for a beginning, an embodiment of the hope that our future, populated with clean, quiet, electric automobiles can still deliver a healthy dose of excitement and fun.

Team Tucson

The team is seven members strong, each with skills and experience critical to the goal. Three have raced at Bonneville. Electrical engineer *Roger Hedlund set the world record for electric vehicles in 1974, driving a car that he designed and built.* That 175 MPH record still stands today, 16 years later. Howard Nafzger holds the record for vehicles in the 1-liter department class, giving him vital insight to small frontal area race car design. Edward Randberg, who set a Bonneville record with his electric-driven motorcycle in 1984, runs a firm that manufactures racing ve-

hicle frames. Keith Copeland is a mechanical designer who has built race cars including a Bonneville sports car. Team leader Chuck Lemme and business manager Chuck Hassen, each hold masters' degrees in mechanical engineering. Lemme is a registered Professional Engineer, and knows fiberglass over foam techniques to build aerodynamic surfaces. Hassen earned his MBA from Harvard. Bill Richards is an electrical engineer, and expert in real-time computerized control electronics.

Sponsorship

The project is changing now from a dream shared by these men and others, into a tangible real-

son recognizes the value of publicity and is taking steps to maximize press coverage.

So far, stories have run in such major national publications as *Motor Trend*, *Automotive Engineering*, and *Auto Week*. Several Arizona papers printed long features on this attempt. The Electric Streamliner appeared on the covers of *Bonneville Racing News*, and *Advanced Battery Technology*.

This response is for a project that is only beginning. Widespread and growing interest in electric vehicle technology under development for environmental reasons, creates a "news vacuum" which leaves news editors and producers hungry for stories with a different angle. The Electric Streamliner fills that vacuum now, and Team Tucson will continue to manage a professional PR campaign to insure that this effort remains in the high tech spotlight until the goal is reached.

More information

To learn more about the project, please contact business manager Chuck Hassen, at (602) 795-2817, or team Leader Chuck Lemme, at (602) 624-3649. Letters may be sent to the address shown below.

Team Tucson

Designers of the World's Fastest
Electric Car
2102 East Hawthorne
Tucson, AZ 85719
(602) 624-3649 ■

North San Francisco Bay Chapter News

For the first time since 1984, the North Bay chapter met in Rohnert Park on September 21; 18 people attended, 14 members of EAA and half of those new members. Teal Campbell came the furthest from Kelseyville near Clear Lake in Lake County.

The following volunteers are vice-presidents and members of the Administrative Committee of the chapter: Roy Saunders, Program Chair, from Healdsburg, Andy Clary, Membership Chair, from Santa Rosa, and Bob Matteson, Advisor, from Santa Rosa.

Andy Peri, our Publicity Chair is moving from the area and we are seeking an immediate volunteer as this is a most important job to keep our membership increasing. Andy has left a detailed list of media contacts among the weekly and daily newspapers, radio and TV stations to enable his replacement to be effective immediately.

I consider the EV Chapter circulating library to be one of the most important functions of the chapter. We encourage any EAA members with extra copies of perti-

nent printed or video material to send it to me at POB 277, Inverness, CA 94937.

The October 19 meeting occurred at our regular meeting place at the conference room at CitiBank in Novato, off Novato Blvd. at Diablo Avenue. Gordon Schaeffer, president of the East Bay Chapter and a past president of No. Bay gave a talk about DC motors for EV conversion. ■

European Electric-Car Firm, Supported by Los Angeles, Plans Late '92 Output

by Robert L. Simison - The Wall Street Journal, September 10, 1991

Worthing, England - At this week's Frankfurt, Germany, auto show, two dozen electric and hybrid electric cars are on display. They carry the names of some of the biggest powers in the car world; Volkswagen, BMW, Renault, Fiat.

And the name of one of the smallest; Clean Air Transport's Svenska AB.

Nearly all the electrics are "concept cars," with production vaguely promised for later this decade. But not Clean Air Transport's LA301, a hybrid electric that has an auxiliary internal combustion engine to extend its range.

The company has no factories, no dealers and no track records, yet Clean Air Transport audaciously describes the car as a full-blown prototype and promises to start production late next year. Sales would start in early 1993 in Los Angeles. All that is to be done on a shoestring budget of less than \$40 million.

A Certain Credibility

The braintrust behind Clean Air Transport doesn't include any John De Lorean-type car mavericks. The chairman and the president are Swedes who have sold everything from cement to computers, but not cars. The company's guiding technical light is an Englishman who has been involved in one failed electric-car project after another for two decades.

And yet, there is a certain credibility to their claims. The city of Los Angeles signed a contract a year ago to back development of the LA301 to the tune of \$7 million and to help Clean Air Transport get its marketing started. Los Angeles's anti-smog initiatives, of which the LA301 is one, pushed the state of California to impose tough new rules on manufacturers selling cars in the state. Starting in 1998, zero-emission vehicles-electrics-will have to account for 2% of each auto maker's sales in California; the proportion rises to 10% in 2003.

This trend toward electric cars, which is expected to spread, has set an industrywide imperative to develop workable electrics. Clean Air Transport's vehicle doesn't differ radically in concept from the Impact, an electric car that General Motors Corp. has said it is developing for the mid-1990s. European auto makers Renault S.A., Fiat

S.p.A. and Volkswagen AG are testing broadly similar vehicles.

Here in Worthing, Clean Air Transport has hired International Automotive Design Ltd. to develop and start production of the LA301. IAD, a car-design boutique, previously helped develop the successful 1990 Lincoln Town Car and Volvo 440, and the runaway hit Mazda MX5 Miata, among others. IAD built the LA301 prototype that is to be unveiled today in Frankfurt, and it has been testing mechanical mock-ups for months.

\$25,000 price Tag

The car that Clean Air Transport plans to unveil is admittedly no technical marvel, being designed around off-the-shelf technology. The company describes its LA301 as a four-passenger, three-door hatchback that can accelerate to 70 miles an hour. It would meet tough U.S. safety standards and sell for \$25,000.

The electric motor is powered by conventional lead-acid batteries that will take the car about 60 miles without recharging. Clean Air Transport says a small, low-emissions auxiliary engine will extend the car's range to 145 miles. That means the car isn't a zero-emissions vehicle all the time, but the company maintains that it will be when battery technology permits - by 1998.

Indeed, the state of the battery technology is what has held electric cars back for decades. Developing longer-lasting, quicker charging batteries is the biggest problem. Although Nissan Motor Co. recently unveiled a development car with a battery it said could be recharged in 15 minutes, the rest of the industry is in about the same place as Clean Air Transport. A full recharge will take eight hours or so. And the range of the Nissan battery is still less than 100 miles.

This week Daimler-Benz AG's AEG unit plans to introduce an improved high-energy sodium/nickel chloride battery that it says would power heavy electric vehicles to almost 80 miles per hour over a stretch of "far more than 120 miles."

Still, doubts remain about the market for electrics. "The question I keep coming back to is who are you going to get to buy these things?" says George Peterson, president of AutoPacific Group Inc., a U.S. consulting

firm. "From the people, we've talked to, everybody feels that an electric car would be great - for their neighbor. There is no great desire for ownership." Car buyers don't want to be limited on range, performance or comfort, he says.

Sir John Samuel, a director of Clean Air Transport who is based in Worthing, concedes all that but argues that the LA301 won't represent a significant compromise for car buyers. He says that 90% of all car trips in the Los Angeles area are of 35 miles or less and that the LA301 has all the comforts of a small luxury car, including ride; at 2,350 pounds, it weighs slightly more than the Volvo 850. And when advanced sodium-sulfur batteries become available, perhaps during 1993, he adds, the car's electric range will increase to 96 miles.

Sir John, whose title is hereditary, got into the car business in 1965 as a mechanical engineering graduate hired to help build English race cars. In the 1970s, he got involved with a British electric-car project called the Enfield of which a few were built for United Kingdom electric-utility boards. He later worked in the Detroit area developing something called the Silver Volt, a converted electric Buick with an auxiliary Wankel engine. "It had everything wrong with it," he says.

Then, in 1984, Sir John says he joined the Danish Whisper project, of which he eventually became chairman. The idea was to build a small, electric city-car called the Whisper. With support from the governments of Denmark and Berlin, more than 30 prototypes were built before the project went bust.

"The underlying problem in all these projects was that we had no focus," Sir John says. He found his focus in 1988 when Los Angeles first challenged the auto industry to put electric cars on the road in California. Sir John had recently met Lars Kyrklund, a Swedish businessman interested in helping to revive the Whisper. Sir John and Mr. Kyrklund determined to set up Clean Air Transport to bid for Los Angeles support in developing an electric car.

Continued on Page 8

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Sir John Samuel, a director of Clean Air Transport who is based in Worthing, concedes all that but argues that the LA301 won't represent a significant compromise for car buyers. He says that 90% of all car trips in the Los Angeles area are of 35 miles or less and that the LA301 has all the comforts of a small luxury car, including ride; at 2,350 pounds, it weighs slightly more than the Volvo 850. And when advanced sodium-sulfur batteries become available, perhaps during 1993, he adds, the car's electric range will increase to 96 miles.

Sir John, whose title is hereditary, got into the car business in 1965 as a mechanical engineering graduate hired to help build English race cars. In the 1970s, he got involved with a British electric-car project called the Enfield of which a few were built for United Kingdom electric-utility boards. He later worked in the Detroit area developing something called the Silver Volt, a converted electric Buick with an auxiliary Wankel engine. "It had everything wrong with it," he says.

Then, in 1984, Sir John says he joined the Danish Whisper project, of which he eventually became chairman. The idea was to build a small, electric city-car called the Whisper. With support from the governments of Denmark and Berlin, more than 30 prototypes were built before the project went bust.

"The underlying problem in all these projects was that we had no focus," Sir John says. He found his focus in 1988 when Los Angeles first challenged the auto industry to put electric cars on the road in California. Sir John had recently met Lars Kyrklund, a Swedish businessman interested in helping to revive the Whisper. Sir John and Mr. Kyrklund determined to set up Clean Air Transport to bid for Los Angeles support in developing an electric car.

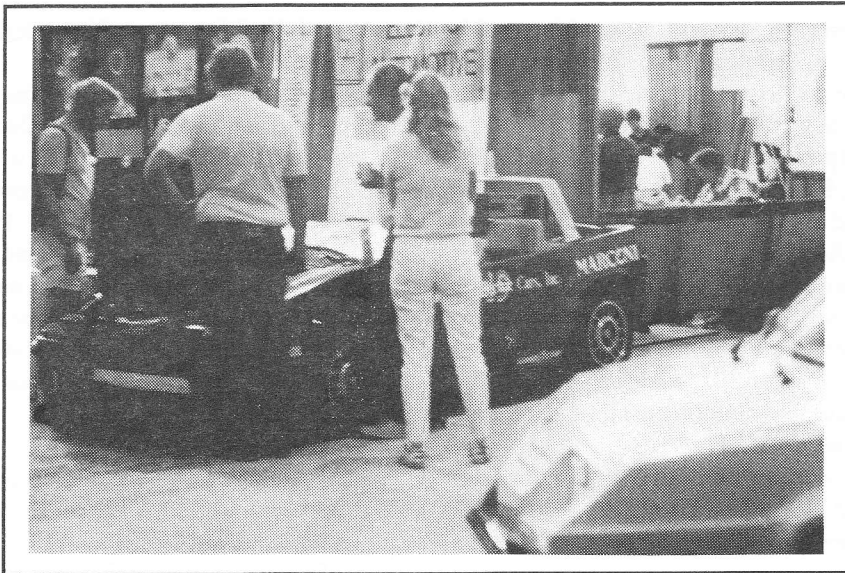
Continued on Page 8

European Electric Car

Continued from page 7

Seeking someone with experience in introducing new technologies, the two recruited Henry Munkevik, a Swedish AG, where they had been involved in marketing electronics. Mr Munkevik became chairman and Mr. Kyrklund president.

Mr. Kyrklund says Clean Air Transport has 70 shareholders, some British but mostly Swedish. The shareholders have invested 26 million Swedish kronor (\$4.1 million) in the project, and the company aims to raise \$30 million through private placements in the U.S. this year. That, together with the \$7 million from Los Angeles, gives it a budget of about \$40 million, which is expected to take the company to the start of production. ■



EAA, Electro Automotive and Calif. Electric Cars Inc. at San Jose Whole Life Expo September 13-15th

Donate or Loan your Electric Car to a Museum

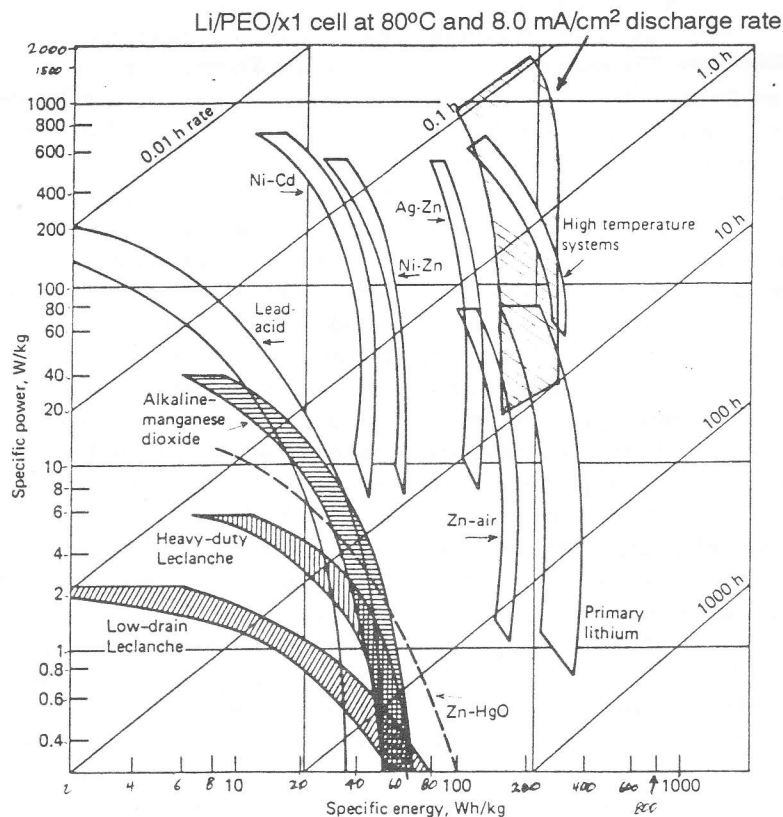
The Association of Science Technology Centers is a group of museums that seek to make science interesting to children and students. The association's coordinator believes that some museums may be interested in building exhibits around electric cars. The idea would be to have people who own functioning electric cars to:

- ☐ donate them to the museum or
- ☐ loan the car to the museum on a once-a-month or once-a-week basis
- ☐ make an extended loan of the vehicle

If you are looking for a way to teach kids about electric cars, why not loan or donate an EV to a science museum? Contact Steve McCrea, South Florida Electric Auto Association, 1402 East Las Olas Blvd., Suite #904, Ft Lauderdale, FL 33301 and I'll try to arrange a match between you and the museum.

EV car makers and anyone who is looking for a new home for an EV should consider donating an EV to a museum! ■

Comparison of the L.B.L. Lithium Battery with Others



Note that this battery can be discharged at still higher rates (10 mA/cm²) and would then give 2400 w/kg which is off the chart! Also see comments in *Editor's Corner*.

Tax Credit for EV Conversion or Purchase

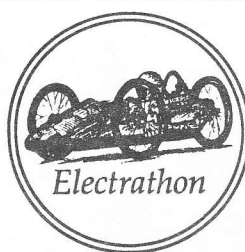
The State of California is offering an income tax credit and a sales tax exemption on the cost of converting a gasoline vehicle to electric power. 55% of the cost of certified parts or the first purchase of an EV up to a maximum of \$1,000, is allowed as a tax credit against your State Income Tax liability. The credit is also available to buyers of new EVs factory equipped as low-emission vehicles. But you have to hurry; this is effective from January 1, 1991 through 1995. For more details, see your tax advisor or the Guide Book to California Taxes, paragraph 133A, and page 434.

This tax credit is a result of Senate Bill 2600 by Senator Urich. We expect to have more on this for our readers at a later date. For more information now, send a SASE to:

Sales Tax and Tax Credit
Information

C/O Richard Rahders
104 Moore Creek Road
Santa Cruz, CA 95060 ■

Congratulations Silicon Valley, EAA!



Fourth American Electrathon Conference

September 21, 1991, Sunnyvale, California

Certificate of Appreciation

presented to

Silicon Valley I.A.A. - Host

presented by the New Electrathon Racing Association
in conjunction with the
Silicon Valley Electric Auto Association's 19th Annual Electric Vehicle Rally
for participation in the Fourth American Electrathon Conference
and dedication to the evolution of electric vehicle technology.



New Bylaws - New Board

The votes (proxys) are in and the EAA Bylaws have been approved and a new Board of Directors selected. A meeting time and location is being planned. The new directors are: (in the order of the proxy) John Newell, Sandy Ames, Paul Brasch, Bill Palmer, and Bob Wing.

Congratulations. Ed. ■

NEWS RELEASE

August 26, 1991

Nissan Unveils Prototype of Practical Urban Electric Car

DETROIT-Nissan today unveiled a stylish electric car for the urban family that can be recharged to 40 percent capacity in six minutes and 100 percent capacity in under 15 minutes, one-fifth to one-fourth the time of conventional systems. Nissan developed this non-polluting car with an eye toward protecting the environment, while still providing consumers a 2 + 2 coupe with sufficient range for normal daily urban usage.

The new vehicle also boasts a creature comfort and convenience level to which modern car buyers are accustomed, including ample interior and luggage space. The Nissan car, called FEV for Future Electric Vehicle, was specifically designed as an electric and features a

completely original aerodynamic design.

This revolutionary new vehicle also has advanced engineering features such as heat-pump style air conditioning and heating, a high-tech heat-insulated, water beading windshield that blocks out ultraviolet rays and improves visibility. Occupant protection is enhanced through the use of driver and front passenger side airbags. Environmental protection is further augmented through the use of the new "green" HFC refrigerant.

The FEV coupe is powered by an advanced high torque electric motor which provides performance comparable to today's high mileage economy cars. It boasts a top speed of 81 mph and a cruising range of 100 miles at approximately 45 mph, more than

sufficient for most families' urban driving needs according to a study by the Federal Highway Administration. The FEV's advanced Super Quick Charging battery system, weighing only half as much as conventional electric car batteries, not only reduces re-charging time, but cuts vehicle weight and increases range.

Nissan has formed a consortium with Tokyo Electric Power Company Ltd., Japan Storage Battery Company, Ltd., and Hokuto Denko Co. to actively study infrastructures and operating systems needed to expand the use of electric vehicles.

Nissan is pursuing a goal of offering consumers a choice of vehicles where they can be secure in the knowledge their selection is environmentally friendly. ■

Be a Charter Member of the New EAA Chapter in Sacramento

A fellow called me in mid-September to say that he was a new EAA member in Sacramento. He picked up a membership application at the EAA booth at the start of the solar car race from Sacramento to Los Angeles. He asked if there was an EAA chapter in Sacramento? My answer was "Not now. Will you organize one?"

In the past there was a lot of interest in electric cars in the Sacramento Valley. John Newell talked me into trailing my MGA Roadster to the California Expo Energy Fair on March 10-12, 1978 and we, no, I mean John and others, (I went skiing) collected about 140 signatures of people wanting more information on EVs. A group was formed, but has now disbanded as far as I know.

All EAA members, in and around Sacramento who are interested in a new chapter, please call or write and volunteer your services to:

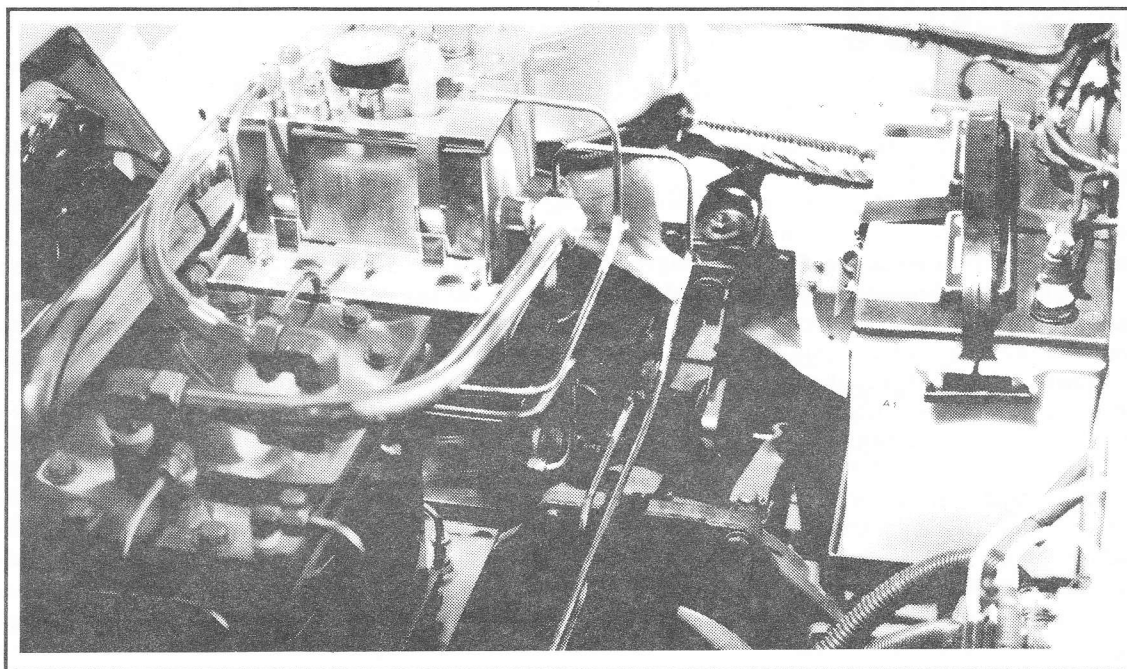
Richard Minner
5201 Dober
Sacramento, CA 95819-3824
Home/office: 1-916-454-5524

Bob Wing
North Bay Chapter President ■

EAA at S.E.E.R. 1991 Willits, CA August 10th & 11th



Hydrogen
Powered EV at
S.E.E.R (see
Symposium '91,
pg. 3)



HELP WANTED

The E.A.A. has a great potential to both educate the world and to help its members with their EVs. For instance, we could provide independent testing of parts, batteries, kits. We could help fund new circuit developments that improve EV use or performance. We could offer special testing or diagnostic services to our members. We are only limited by our imagination.

But to do these things requires money to facilitate these activities. Presently, most of the dues are used for publishing the C.E. newsletter. To reduce our publishing cost for the Newsletter, we need some help from some of our members. We need volunteers for several positions.

The two most pressing needs are for an Assistant Editor and Advertisement Coordinator. The primary role of the Assistant Editor would be to help coordinate, write, edit and backup the Editor. The primary role of the Advertisement Coordinator would be to monitor our present advertisers and solicit new advertisers. Another area of support needed is distribution. The Munros currently collate, fold, staple and label more than 1,000 copies of the newsletter each month. We need someone to provide backup to the Munros and deliver the newsletter to the Post Office each month.

Your participation in the Newsletter helps deliver exciting and new information to all the EAA members. This is an opportunity to really make a difference in this organization as well as the world.

Not only can we contribute to our current members, but the general public benefits as well. Most people have never heard of an electric car. They are truly stunned to hear that they are street legal and can travel the highways. Though they may be naive about electric cars, they are intrigued about the concept and immediately start asking questions about the practicality of owning one. People are interested and the time is NOW to wake up the public to the Reality of today's Real electric cars and what they do. This is your chance to be in the forefront of this quest to save our air and planet.

If you want to be part of this and the Current Events staff, please call me.

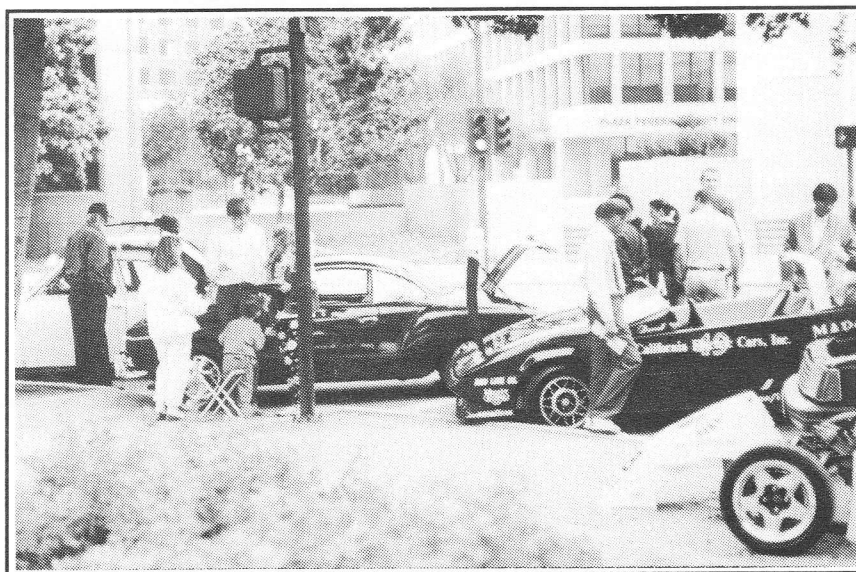
We also need articles, reports, how-to stories, etc. We would especially enjoy getting how-I-did-it stories about member's recent conversion experiences. Don't worry about your writing ability, - send in the facts and your phone number and I will turn them into articles for us all to enjoy and learn from.

Any form (typed or hand written), is fine, but if possible, the preferred format is on a floppy disk with the file

saved as an ASCII file in the DOS format along with a hard copy of the article. If the article contains graphics, use TIFF format. All articles are welcome, even if they are scribbled on the back of an envelope or napkin in pencil.

Paul Brasch, Editor
1968 Elden Drive
San Jose, CA 95124-1313
(408) 371-5969 10-5pm PST ■

EAA Participation at Solar City Fair 1991 San Jose, CA October 5th



Editor's Corner

Continued from page 1

In other notes: I obtained an information sheet on the Nissan Quick charge car that was getting press recently. They had been careful to not tell you what type of battery it uses, but the information sheet I have clearly states that it is a Nickel-Cadmium battery weighing 444 lbs. The total curb weight is 1,948 lbs and it evidently has twin front wheel drive, with two 20 KW motors. They claim a top speed of 81 mph and a range of 100 miles at 45 mph. (See announcement on pg. 9)

Other interesting technical information I came across is the battery comparison chart of power vs energy density. I transferred the plot of the Li-Poly battery from L.B.L. from the July Issue of C.E. and came up with a clear winner for Dr. Visco's new battery in its EV form. (See chart on pg. 8)

I want to thank the many people who send in articles from newspapers or wherever; especially Carol Roman of Santa Monica for the July coverage of the Luz refuelable battery article. Please, everyone, keep sending in what you find. It is better to receive duplicates than to miss something entirely. Thanks. ■

- Pb Editor

De Anza College Hosts 1st Annual "Renewables are Read Exhibit"

Saturday, November 21st from 9am - 4pm, DeAnza College will host a Student/Public exhibit of environmentally beneficial products and services. DeAnza college has a student body of 28,000. They will be advertising throughout the Santa Clara Valley and inviting other school districts to attend as well.

A Solar Car Race is planned as well as speakers. The EAA will have a booth there and we ask all members who can show their cars at this Event to call Paul Brasch at (408) 371-5969 or Julie Phillips at (408) 864-8773.

The location is 21250 Stevens Creek Blvd., Cupertino, CA at the Hinson Campus Center outdoor patio area. ■

Yet another chance to strut our stuff! - Ed

If you want

Performance calculations for your future EV.
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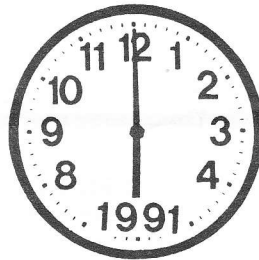
for Credit Card orders - (Plans and Video only) or call (702) 359-7356. Foreign orders other than Can. or Mex. - \$10. psh for Airmail. Allow 2-4 weeks for delivery.

ADS WANTED

We want advertisements for the EAA Newsletter. If you would like to submit an ad, please contact Paul Brasch for price and specifications.

Paul Brasch, Editor
1968 Elden Drive
San Jose, CA 95124-1313
(408) 371-5969 10-5pm PST

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FOR SALE: Various motors, relays, fuses, shunts, meters, etc., for electric autos. Also, a 1969 VW electric. Send SASE for list or call Gregory Whitney (602) 978-3380 evenings or (602) 271-2646 8am-2:30pm

The EAA is not responsible for the accuracy of ads.

Calendar

October 26 EVAOSC Electric Vehicle Association of Southern Calif. will hold its 1991 Rally, starts 8:00 am at Milliken Ave. near the the old Ontario Motor Speedway. Info - (714) 986-2472.

November 6-10 Seattle KINGDOME, 1992 International AUTO SHOW, EVs will be participating.

November 9 East Bay Chapter Meeting at PG&E Service Center, 4801 Oakport Street, Oakland, CA (Hwy 880 frontage road, South of High St., Oakland) at 9:30am. Russ Kaufman on DC Controllers. For more information, call Andy Clary (707) 526-7692.

November 16 North Bay Chapter Meeting will be held on the 3rd Saturday of each month at CitiBank conference room, Novato Fair Shopping Center, Novato. Access is west from 101 Delong Exit. Meeting time is 10am to 12 noon. Show & Tell, Tutorial: A. MacDonald on Minimizing Energy Use. For more information, call Jim Danaher, Sec. (415) 339-1984)

November 16 Silicon Valley Chapter Lee Hemstreet will talk about Regen. circuits.

November 19 - 21 WESCON/91 Electronic Show and Convention Moscone Convention Center, San Francisco

November 21 DeAnza College "Renewables are Ready Exhibit", 9am-4pm (see pg. 9)

December 14 East Bay Chapter Ed Lechner will talk on Roadway Power for EVs

EAA Chapters

ARIZONA

- Phoenix
Lee Clouse (602) 943-7950
P.O. Box 11371, Phoenix, AZ 85061
Meetings: 4th Saturday/month 9am - Noon
Even months: Chapman Chev., Baseline Av.
at McClintock. Odd months: Lou Grubb
Chev., 27th at Camelback, Phoenix

CALIFORNIA

- East Bay
Jim Danaher (415) 339-1984
1986 Gouldin Rd., Oakland, CA 94611
Meetings: 2nd Saturday/month 9:30 - Noon
PG&E Service Center, 4801 Oakport St. (880
frontage road south of High St.), Oakland
- North Bay
Bob Wing (415) 669-7402
P.O. Box 277, Inverness, CA 94937
Organizing meeting Sept. 21, 1991
Location to be announced. (See inside)
- Peninsula
Jean Bardon (415) 355-3060
540 Moana Way, Pacifica, CA 94044
Meetings: 1st Saturday/month 10am - Noon
San Bruno Public Library (downstairs), San
Bruno.
- Silicon Valley
Paul Brasch (408) 371-5969
1968 Elden Dr., San Jose, CA 95124-1313
Meetings: 3rd Saturday/month 10am - 1pm
Hewlett Packard Santa Clara facility, Stevens
Creek Blvd. at Lawrence Expwy., Santa Clara

- San Jose
Don Gillis (408) 225-5446
5820 Herma, San Jose, CA 95123
Meetings: 2nd Saturday/month 10am - Noon
1592 Jacob Ave. (near Meridian), San Jose
- Los Angeles
Irv L. Wiess (818) 841-5994
2034 N. Brighton "C", Burbank, CA 91504
Meetings: 1st Saturday/month 11am - 1pm
Pasadena City College, 1570 E. Colorado
Blvd., Rm. E220, Pasadena

NEVADA

- Las Vegas
Gail Lucas (702) 736-1910
Desert Research Institute
2505 Chandler Ave., Ste. 1
Las Vegas, NV 89120 EXAS
- Houston
Ken Bancroft (713) 729-8668
4301 Kingfisher, Houston, TX 77035

WASHINGTON

- Seattle
Ray Nadreau (206) 542-5612
19547 23rd N.W., Seattle, WA 98177

NEW JERSEY

- Hackensack
Kasimir Wysocki (201) 342-3684
293 Hudson St., Hackensack, NJ 07601

NEW ENGLAND

- Maynard
Bob Batson (508) 897-8288
1 Fletcher St., Maynard, MA 01754

SOUTH FLORIDA

- Ft. Lauderdale
Steve McCrea (305) 463-0158
101 SE 15th Av., #5, Ft. Lauderdale, FL 33301
- ### VANCOUVER, B. C.
- Vancouver
VEVA (604) 987-6188
543 Powell St., Vancouver, BC V6A 1G8
 - American Solar Car Ass'n.
Robert Cotter
P.O. Box 158, Waldoboro, ME 04572

NON-AFFILIATED GROUPS

- EVAOSC
Ken Koch (714) 639-9799
12531 Breezy Way, Orange, CA 92669
- EVCO (604) 987-6188
Box 4044 Sta "E"
Ottawa, Ontario CANADA K1S 5B1
- DEVC
George Gless (303) 442-6566
Denver, CO
- Fox Valley EVA
John Stockberger (708) 879-0207
2S 643 Nelson Lake Rd., Batavia, IL 60510

For info on the EAA, send SASE to the
address below or call (415) 591-6698,
(415) 685-7580 or (408) 371-5969.
Please call weekdays 10am - 5pm
Pacific Time.

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October/November 1991

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