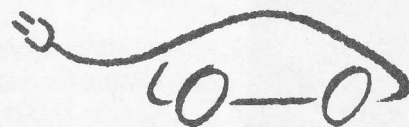


CURRENT EVENTS



June 1995

Promoting the use of electric vehicles since 1967

Vol 27 No. 6



'95 SunDay Challenge

by Brad Keoun

At the Daytona International Speedway, cars usually make noise—lots. But April 1-2, at the Fourth Annual SunDay Challenge, electric vehicle racers gave die-hard stock car fans a little quiet so that they could think—and something to think about.

The 1995 SunDay Challenge, hosted by the Florida Solar Energy Center in Cape Canaveral showcased some of the hottest and fastest electric vehicles in the nation—including a canary-yellow, 1955 electric Porsche Spyder replica that reached a speed of 83.4 mph in a quarter-mile acceleration test.

The 1995 SunDay Challenge comprised two days of alternative fuel vehicle activity: a day of safety inspection and per-

formance testing at the Daytona International Speedway and a Road Rally designed to simulate typical commuter driving conditions. This year's Road Rally began at Daytona, and finished in front of the Florida Solar Energy Center's new 71,000 square-foot complex in Cocoa, Florida.

The electric Porsche Spyder, driven by Lee Hellett of Tallahassee, Florida won the Production Commuter category of Sunday's Road Rally event, easily finishing the 69-mile course in a time of 2:01:02. Doug Cobb, of Solar Car Corporation in Melbourne, Florida, drove an electric Ford Festiva, to second place in the category, with a time of 2:18:93. The Production Commuter category comprises ve-

hicles built by EV manufacturers, and driven as sold.

In other rally action, participants competed in the American Commuter category, primarily meant for home-built conversions, and the Tour de Sol Commuter Category, a rally class specifically designed for vehicles that carry photovoltaic panels for charging the batteries. A third rally class, the Open category, accommodated hybrid-electric vehicles and vehicles powered by other alternative fuels, such as compressed natural gas and hydrogen.

In the American Commuter category, Ernie Moore scored a decisive victory in EV1, a Mercury Lynx conversion he built with other members of the Central Virginia Electric Auto Association. In a close battle for second, Nitin Shanbhag, in Clemson University's *Lead Sled* just edged out Frank Hickling, in his Honda CRX conversion.

In the Tour de Sol Commuter category, Tim LeMieux in his modified Commuta-Van finished first, followed by Ed Passerini in *Canary* and Darrell Murphy in *SunDriver*.

Along Came a Spyder...

All eyes were trained on the smooth, sexy yellow curves of the electric 1955 Porsche Spyder replica from the minute it pulled into its garage space at the track on Friday afternoon. The Spyder race crew, led by car owner Al Simpler of Tallahassee, wore Miller Beer Racing

Continued on page 4

EAA Info: 1-800-537-2882

Autocross Info 2

SF BEAR Gets Hug..... 3

Curtis 1221 & 9" Motor... 7

Desert Lightning 9

EV Invite from Monaco ... 13



Autocross that EV! (Part 2)

by Clare Bell

Shortly after I wrote my EV autocross editorial, I received a neat little newsletter called The Rookie Report from Sports Car Club of America. This is for rookie drivers in SCCA Solo 2, and since I entered the last few competitions as a rookie, I get it. The nice thing about entering as a rookie is that you can run in any group.

They prefer that you run in the class that fits your car, but you don't have to. This class is to make things easier for beginning drivers. Rookie Report is published by Rookie Administrator Sherry Grantz at (408) 734-1716.

Solo 2 is a great place to learn how to make your car really handle while having a blast. You really understand the effect of various types of tires, shocks, springs, weight distribution, etc. I've improved my car's agility by just talking to the gas Porsche 914 drivers and seeing how their cars are rigged. Here are some of the upcoming San Francisco Regional Solo 2 events:

- ◆ May 27, Candlestick Park, Round 8
- ◆ May 28, Candlestick Park, Round 9
- ◆ June 25, Candlestick Park, Round 10
- ◆ July 9, Candlestick Park, Round 11
- ◆ July 15, Stockton Fairgrounds, Round 12

For more schedule info, use the SFR Hotline, (415) 599-2615.

Also consider the Duel at DeAnza, which is not an SCCA Event, but one which brings out the spectators. This one happens May 21, no later than 8 AM. Registration starts at 6 AM and it is first-come-first-served until they have about 150 entries. The format is one time out for three laps. If you want to look like a pro and impress the masses in your high-performance EV, De Anza is it! De Anza College is in Cupertino, CA, at Stevens Creek and Stelling.

The SCCA Rookie program is glad to have us aboard. To quote from the Rookie Report, "Cars include everything from a vintage 1966 Plymouth Barracuda to a gaggle of Corvettes of various vintages to an array of 90s technology electric cars." How's that for encouragement? The electrics are actually doing better than some gas cars. As of Mid-April, 23 drivers were ranked in point standings. Bob Schneeveis was 15th out of 23 and I was 2 places down in 17th. I didn't get to run the last round, but Bob did and he's probably up a few places.

Let's get some more electrics out to carry the banner. After all, you don't want us two to get all the glory of being EV pioneers, do you? Thought so! See you at De Anza.
— CB

Front cover photo: *The Simpler Solar Systems race crew performs last-minute maintenance on the Electric Porsche Spyder.*

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Article Submissions

If you would like to submit an article for Current EVents—the preferred form is on a floppy disk, formatted for DOS(Ascii Format) along with a printed copy of the article. Also include camera-ready photos or graphics or include TIFF formatted files with your copy.

Articles and graphics or line art may also be submitted for the MAC. Please specify PC or MAC and identify software used. Please include a hard copy.

The deadline for articles is the 1st of the month. Articles submitted after the 1st of each month will be retained for future issues of Current EVents. Contact Clare Bell, Managing Editor for further information.

Advertisements

If you would like to submit an ad, refer to Advertising Rate Sheet or contact contact Susan Hollis, Advertising Mgr. at (408) 374-8605.

Membership/Address Changes

For information on new membership or change of address, please send your requests to:

EAA Membership

Hal & June Munro

2710 St. Giles Lane

Mountain View, CA 94040

SF Mayor Hugs SF BEAR

The San Francisco Bay Electric Auto Rally, held on March 29th, got some high-kilowatt recognition from the city's Mayor. Announcing that April 29th would be SF BEAR Day, a representative from Mayor Frank Jordan's office presented a plaque recognizing the clean air pioneers who organized and participated in the three-bridge, 50-plus mile rally. Both entrants and staff agreed that the success of this first-time Event made it a candidate for the annual EV calendar.

EVs circled the northern part of San Francisco Bay, crossing three bridges and raising more than \$1600 in donations to the American Lung Association. Each entry gathered sponsors, who pledged support to the ALA. The total exceeded ALA's target of \$1500.

Rally winner on the basis of mileage was our own Reverend Noah Moore Smogg, Mr. Peter Barnes himself in his snappy little VW pickup. Mike Slominski's ragin' rarin' Rabbit was right on his tailfeathers with second. Scott and Anna Cornell picked up the Highest Donation Award (They raised \$300).

Twenty four cars were on-hand, half running in the rally and half for display or local support. Peninsula Chapter supplied the logistics and the wherewithal, including, the canopy and the lunches (thanks, Jean and Jeannette Bardon.)

Of all the cities that publicized SF BEAR, Emoryville did the best job. Public interest was so high and people crowded so closely around the cars that entrants had a difficult time getting back on the road. East Bay members handled the

Emoryville stop, making it the most attention-getting one in terms of the public and media. Even a misting drizzle couldn't dampen the enthusiasm and cameras sprouted like rain-watered daisies (hope we get some good air time!).

Another participant spotted by CE's roving (though late on the scene) editor was Victor Rodriguez' Golf GTI. Nice-looking little beastie and a good performer

Arrangements went without a hitch, thanks to good planning and preparation. It was an ambitious Event, especially so the first time and Peninsula deserved kudos for carrying it off so well. CE's congratulations go to chapter president Ben Compton and Peter Barnes. Mike Slominski played the role of unsung hero in making sure that everything came together. Good job, all! —CB

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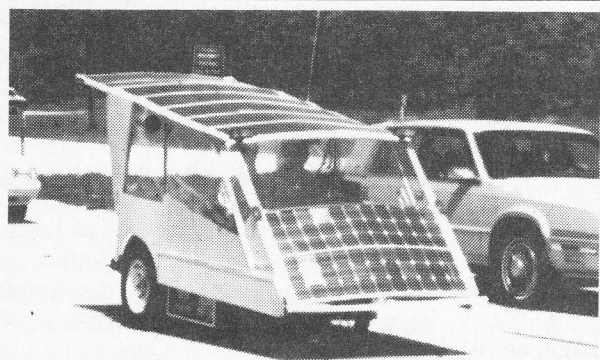
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SunDay Challenge

Continued from page 1



Ed Passerini in 'Canary' negotiates traffic on US 1 during the Road Rally.

Driver Hellett gave spectators their first sample of the electric *Porsche Spyder* Saturday afternoon, when the car recorded a time of 11.07 seconds on a 0-65 mph acceleration test. Watching this quiet conqueror tear up the Daytona track sent goosebumps down my spine.

Later, during the Handling Test event, Hellett whipped the *Spyder* around the orange cones of a Figure 8 course as if it were the nylon cord on the end of a Weedwhacker. But Hellett kept the car smoothly under control, and thrilled the crowd with the wailing squeal of burning rubber on the track.

The electric *Porsche Spyder*, built by Mendomotive Electric Vehicles, of Fort Bragg, California, featured a 192-volt custom-built controller and charger, and an Advanced D.C. prototype, 100 hp, series-wound DC motor, specially rated for operation at 192V.

Many of the entries in this two-day event were driven by the alternative fuel vehicle enthusiasts—a melange of students, engineers, entrepreneurs, and hobbyists—who built them.

Though *Canary* finished the 69-mile Road Rally at a decidedly leisurely pace, pilot Passerini said that 100% of the vehicle's battery charge came from the sun—emphasizing its reliance on renewable energy sources. Interestingly, the Road Rally followed a straight course due South, in which direction, fortunately for Passerini, the wind was also blowing. "I used my solar panels like a sail," he mused.

Driver Tim Madden turned heads with his uniquely constructed *Amp-a-Jammin'*. His dune-buggy-esque two-seater, built on a Volkswagen sandrail chassis, incorporates a tubular steel frame and cut-out sheets of dumpster material for floor panels. His Advanced D.C. 9" series-wound DC motor runs on 96 volts—and provides plenty of power for a car that weighs only 2,400 lb.

An Oldie But Not Moldy

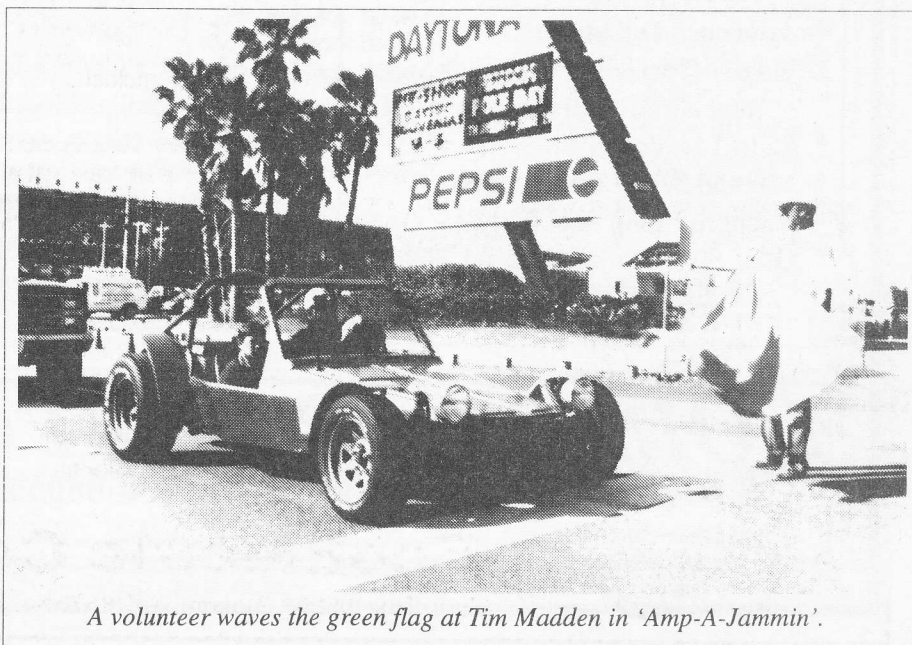
Lacking in power, but not in style, Ted Holden's Milburn Electric held its own at 20 mph—not bad for a car built in 1918. Steering and acceleration on the car are provided by a series of hand-operated levers, situated on the left side of the vehicle—in the back seat. Though the vehicle has witnessed numerous battery pack changes in its colorful history, it still uses the original General Electric series-wound DC motor, and the antique 220V off-board battery charger. In Saturday's efficiency event, Holden cruised his horseless carriage around the banked corner of the Speedway track as if he were

late to meet his sweetheart at an ice cream social on a Sunday afternoon—like something out of a Norman Rockwell painting.

"These cars are fun to drive, but more importantly, good for the environment," remarked SunDay Challenge director Bill Young. "We are trying to demonstrate to the public that electric vehicles, using existing technology, can provide economical and practical long-term solutions to modern transportation problems."

The SunDay Challenge has seen tremendous growth since its inaugural event in 1991. This year's field of participants included 26 cars, with entries from Florida and seven other states. Young hopes to make several additions to next year's Challenge, including a stock car race for high school and university conversions, and a special competition for the solar-powered, cross-continental SunRayce cars, popularly associated with the multi-stage race across the Australian desert. —BK

Brad Keoun is a science, business and technology writer/reporter, and a Florida EAA member.



A volunteer waves the green flag at Tim Madden in 'Amp-A-Jammin'.

EcoElectric Announces Pickup

EcoElectric in Tucson AZ has announced the *Desert Lightning*TM electric pickup. Based on a 1995 Chevy Chevy S-10 with driver-side air bag and four-wheel anti-lock braking system, the *Desert Lightning* follows EcoElectric's philosophy of providing reliable electric transportation using proven technologies.

The design incorporates features intended to provide familiar, user-friendly operation for ICEV-trained drivers. The standard package uses a ZAPI controller with regenerative braking, an Advanced DC 21 hp (continuous) motor, 144 volts of Trojan T-145 batteries, and an on-board 120VAC 15-amp output Zivan charger at a price of around \$26,000. Alternate pricing is

available to fleet purchasers who want to provide their own Horizon or other advanced batteries.

The *Desert Lightning* stated range (SAE urban cycle) is a minimum of 60 miles in temperate conditions, without air-conditioner or heater in operation. Top speed is over 70 mph. Standard features of the conversion include an environmentally-sealed control package, aerodynamically-styled grille, and resistance heater/defroster. All batteries are completely contained in enclosures that fit within the stock vehicle outline and have undergone stress analysis to ensure that they would survive a 30 G frontal impact.

EcoElectric has made every effort to meet existing and proposed SAE standards and other safety and construction guidelines, with total system integration throughout. The converted truck is within Chevrolet's original Gross Vehicle Weight Rating (GVWR), with a useful load of 800 pounds and a bed capacity of 500 pounds. While EcoElectric's marketing efforts are focused on fleet operators, the vehicles are also available to individual consumers.

Contact Mary Ann Chapman, EcoElectric Corporation, Tel. 520-889-1056, fax 520-889-6746. Email ecoelec@primenet.com.

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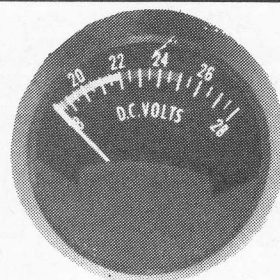
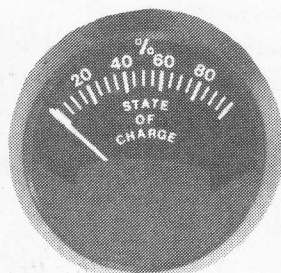
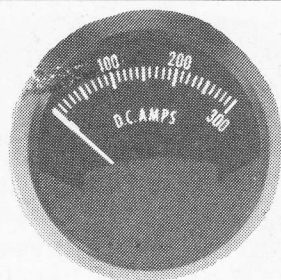
- Our complete component catalog, dynamically updated with latest prices and new products.
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- Calendar of upcoming EV events.
- Technical information and conversion tips from our engineering guru, John Witt.
- Tucson Electric Vehicle Association newsletter excerpts.
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How Should I Choose A Parts Supplier?

The most important question to ask is, "Will this supplier be there when I need him, with the proper technical support?" They all SAY they will. Here are a few rules of thumb for sorting the wheat from the chaff.

Established Business. How long have they been in the EV business? Is it their main business, or a sideline? Are they widely known, or a local phenomenon only?

Authorized Distributor. An authorized factory distributor has a direct channel for technical support, service,

and warranty assistance if you should need it.

Quality Mainstream Parts. Don't build an orphan. Obsolete or surplus parts are no bargain. Limited production parts have limited support. Experimental parts mean you help find the bugs. All of them.

Complete Line. Do they send you to someone else for important parts like adaptors or chargers?

Experience. A supplier should be more than an advanced hobbyist. He should be a professional EV mechanic.

Electro Automotive has been serving the needs of the EV community nationwide since 1979, and was one of the first factory authorized distributors of Curtis/PMC controllers and Advanced DC motors. We offer a complete line of quality components in current production, as well as books, videos, and training. Company founder Mike Brown has an unmatched 28 years of professional automotive experience, as well as 16 years of professional EV experience.

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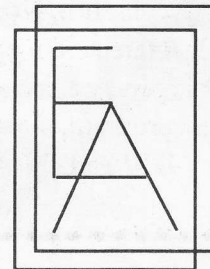
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New CEO for Electricar

March 29, 1995 Last week, in Santa Rosa, Calif., the board of directors of U.S. Electricar, Inc. announced the appointment of Roy Y. Kusumoto, 52, as CEO. A company director since 1994, Kusumoto replaces Ted D. Morgan who will continue as chairman of the board.

Kusumoto's past experience has been in the semiconductor, aerospace, and computer industries. He brings U.S. Electricar strong international business ties through his experience establishing manufacturing operations in Europe and Asia.

U.S. Electricar announced that it has raised \$500,000 in convertible debt funding, which has been matched with \$500,000 in convertible debt funding from Itochu Corporation. Itochu had agreed to provide up to \$3 million in financing if matching funds are obtained by U.S. Electricar.

With the funding, U.S. Electricar has now received \$2 million in funding of which Itochu has provided \$1 million under the agreement between the two companies.

(BUSINESS WIRE: 4/25)

For more information, contact Leo Heagerty at 707/525-3227. From EV Discussion List.

ANNOUNCEMENT

Electric Vehicles Inc. is preparing a beta test of 3.5 kW "smart" EV chargers.

Individuals in Northern California interested in purchasing such chargers and participating in the test program, please contact Stan at (415) 964-3974.

Curtis/PMC & Advanced DC 9 Motor

by Shari Prange, *Electro Automotive*

There has recently been some misinformation on the net about Curtis/PMC controllers. Specifically, it has been said that the factory no longer supports the 1221 controller when used with the Advanced DC 9" motor at any voltage. This is not true.

The Curtis PMC controller used for the past several years in electric conversions has been the 1221B-7401. The factory continues to offer warranty and repair support for these controllers, including those used with Advanced DC 9" motors.

The B version of this controller is currently being discontinued, to be replaced by the 1221C-7401 for conversions. All ratings for this controller are the same as the old one. The difference is a change on the logic board that will give the controller more protection against failure in extreme (and not recommended) conditions of high current at low speed.

There is also a new controller available, the 1231C-8601. This controller is physically larger than the 1221, and costs more. It has a higher current limit, higher input voltage range and higher duty cycles. In many cases, the 9" motor is used because the vehicle in question is heavier than usual, or is expected to carry a load, or will be used in a severe duty cycle. In these conditions, the larger 1231 controller is recommended.

The factory continues to support the 1221B, 1221C and 1231C controllers with the Advanced DC 8" and 9" motors, as long as they are properly installed and wired, and used in accordance with the rated duty cycles.

NEW PRODUCTS

First VoltsPorsche

Residents of Bonny Doon in Santa Cruz, CA have probably been noticing a sleek black cruiser tooling silently around in the redwoods. This is "Black Magic" a 1976 Porsche 914 electric conversion, the first car to be built with the new Electro Automotive VoltsPorsche™ kit.

Inspired by the red 1974 Electric 914 Porsche (#13) as originally built and raced by Ron Rasmussen, the new VoltsPorsche show car duplicates or exceeds #13's original range, hill climbing ability and handling. "Black Magic" came to life on March 17, 1995, with a click of her contactor and the keen of Advanced DC 9" Motor.

Born from a collaboration between Electro Automotive and CE's own Clare Bell, this VoltsPorsche will be the first of many 914-based EVs. After initial assembly and testing by Mike Brown, the car was completely disassembled, then reassembled by Bell, using the first draft of the kit's manual. This improved the clarity and usability of the text. The kit went together rapidly and easily. It displays the same fit and finish as Electro's well-known VoltsRabbit kit, and includes absolutely everything needed for the conversion.

It is not cheap: with the price of the donor car and parts one is probably looking at a total investment of 10-12 k minimum. But it does put a high-performance EV sportscar and long-distance cruiser (80-90 freeway miles) within range of the the conversion kit buyer.

"Black Magic" will be at various EV events and displays during the year. Come by sometime and check her out! See Electro Automotive's ad on page 6.

EAA Chapter Listing 5/95

ARIZONA

Phoenix (PHNX)

Contact: Daniel Parmley (Pres.)
PH: (602) 250-2131
P.O. Box 40153, Phoenix, AZ 85067-0153
Meetings: 4th Sat @ 8:30 AM - 11 AM
APS Public Service Center 400 N. 5th St.,
Phoenix, AZ

CALIFORNIA

East Bay (EBAY)

Contact: Scott Cornell (Pres.)
PH: (510) 685-7580
60 Alan Dr. Pleasant Hill, CA 94523-1902
Meetings: 2nd Sat. @ 10 AM
Pacific Bell, 2600 Camino Ramon
San Ramon, CA (off 680 N.)

Los Angeles (LAEA)

Contact: Irving L. Weiss
PH: (818) 841-5994
2034 N. Brighton "C"
Burbank, CA 91504
Meetings: 1st Sat. 11-1 PM
Pasadena City College, Rm C306
1507 E. Colorado Blvd. Pasadena, CA

North Bay (NBAY)

Contact: Preston McCoy
PH: (415) 499-0601
750 Pine Lane, San Rafael, CA 94903
Meetings: 3rd Sat, 9:45-12 noon
Santa Rosa, CA
Call for meeting location.

San Francisco Peninsula (PEN)

Contact: Ben Compton (Pres.)
PH: (415) 242-1881
1277 15th Avenue
San Francisco, CA 94122
Meetings: 1st Sat 10 AM
San Bruno Public Library El Camino Real
& Angus St., Downstairs meeting room.

San Jose (SNJ)

Contact: Don Gillis (Sec/Tres.)
PH: (408) 225-5446
5820 Herma St. San Jose, CA 95123
Meetings: 2nd Sat. 10 AM-Noon
San Jose, CA
Call for meeting location.

Sacramento (SAC)

Contact: Mark Bahlke
PH: (nm) (916) 356-6767
Meetings: 2nd Sat. SMUD
6201 S St., Sacramento, CA

San Diego EVA (SDGO)

Contact: Ron Larrea (Pres.)
PH: (619) 443-3017
9011 Los Coches Rd
Lakeside, CA 92040
Meetings: 4th Tues, 7 PM
San Diego Auto Museum
2080 Pan American Plaza
San Diego, CA

Silicon Valley (SVLY)

Contact: Chuck Olson (Pres.)
PH: (408) 296-6944
3087 Taper Ave., Santa Clara, CA 95051
Meetings: 3rd Sat. 10 AM-1 PM
Call for meeting location.

FLORIDA

Florida EAA (FLA)

Contact: Bill Young
PH: (407) 269-4609
P.O. Box 156, Titusville, FL 32781-0156
Meetings: Call for time and location.

MASSACHUSETTS

New England EAA (NENG)

Contact: Bob Batson (Tres.)
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1 Fletcher St., PO Box 59
Maynard, MA 01754
Meetings: 1st Sat, 1 PM in March,
June, Sept, Dec.

NEVADA

Las Vegas (LVGS)

Contact: Gail Lucas (Board. Member.)
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P.O. Box 19040
Las Vegas NV 89132-0040
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Desert Research Inst. Flamingo @
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603 Florida St SE
Albuquerque, NM 87105
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International House of Pancakes
Gibson just East of San Mateo
Albuquerque, NM

LAS Cruces (LCNM)

Contact: Dr. Jack Hedger (Pres.)
PH: (505) 546-0288
P.O. Box 1077, Deming, NM 88031
Meetings: 1st Wed., 7 PM
Engineering Assoc. Rm at El Paso Electric
Div. Las Cruces, New Mexico

NORTH CAROLINA

Southeastern EVA (SEEV)

Contact: Lawson Huntley
PH: (704) 283-1025
P.O. Box 1025, Monroe, NC 28111
Meetings: Call for time and location.

OHIO

Ohio EAA (OHIO)

Contact: Pete Gall
PH: (513) 683-3122
6875 Oakland Road, Loveland, OH 45140
Meetings: Now forming.

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Austin (AUST)

Contact: Louis Koiner
PH: (512) 990-9760
1413 Quail Run Rd.
Pflugerville, TX 78660
Meetings: Call for time and location.

HOUSTON (HOUS)

Contact: Ken Bancroft
PH: (713) 729-8668
4301 Kingfisher St., Houston, TX 77035
Meetings: 3rd Sat. 12-5 PM at above
address.

UTAH

West Valley City (WVC)

Contact: Harry VanSoolen (Pres.)
PH: (801) 969-1130
3622 South 4840 West
West Vally City, UT 84120.
Meetings: Call for time and location.

VIRGINIA

Central Virginia (CEVA)

Contact: Jim Robb (Pres.)
PH: (804) 342-0925
3106 Porter St, Richmond, VA 23225
Meetings: 3rd Wed.
Science Museum, 2500 W. Broad St.
Richmond, VA

WASHINGTON (STATE)

Seattle EAA (SEVA)

Contact: Ray Nadreau
PH: (206) 542-5612
19547 23rd N.W., Seattle, WA 98177
Meetings: 2nd Tues.
Call for location.

WASHINGTON DC

EVA of Greater Washington DC (EVDC)

Contact: David Goldstein
PH: (301) 213-3990
(301) 869-4954
9140 Centerway Rd
Gaithersburg, MD. 20879
Meetings: 2nd Tues, 7 PM
Marocco's Restaurant 1120 20th St.
Washington, DC

BRITISH COLUMBIA, CANADA

Vancouver (VEVA)

Contact: Bill Glazier (Tres.)
PH: (604) 980-5819
1402 Charlotte Rd., North Vancouver,
B.C. Canada V7J 1H2
Meetings: Call for time and location.

Board Briefs

March 23, 1995

The meeting was held at Tandem Computers, Cupertino, CA. Present were C. Bell, H. Bell, Brooks, Hemstreet, Skokan and Slominski. No proxies were given, but the board had a quorum. Skokan substituted as secretary since Cornell was on vacation. Minutes from January were read. Hemstreet moved to accept, C. Bell seconded.

Finance- Slominski

The Association is financially sound, with \$15K in the bank account. The issue of old outstanding checks was discussed. A majority of board members proposed a six-month limitation on validity of checks.

Newsletter- C. Bell

Running the chapter listings page in every issue was proposed. C. Bell asked for and all present board members approved \$1K for purchase of laptop for CE editor field reporting. A second phone line for the fax and modem was also approved. US Electricar's financial difficulties were discussed and CE will print an article. The contents of next 24-page promotional CE issue were discussed. Needed improvements for EVent Calendar were mentioned and planned.

Activities - Skokan for Cornell

Lots of EVent this year, including Peninsula Chapter's SF BEAR Rally in April. (Skokan was contacted by WESCON after the board meeting. The EV segment is in, but will be very limited in free space, just room for the Impact and probably one B.A.T. car, production cars only. The rest will be paid space for EV component makers. No word on the technical program yet.)

New membership - Skokan for Cornell

Anna faxed a spreadsheet showing the number of 800 # calls. Anna has mailed 176 packages since 1/1/95. 14 new members have signed up.

Technical Info - Lee Hemstreet

Lee received an EV-related patent offer. He will inform the inventor that EAA is a non-profit educational organization, not a manufacturer.

Chapter Relations - H. Bell

Additional copies and mailings of the Chapter Startup Package were discussed.

Membership - Brooks

A valid chapter list and membership numbers were reported. 250 copies of the EV buyers Guide are available from Don Gillis. The Sacramento Chapter officers are EAA non-members. An article about local funding will be written for CE.

Awards - Skokan for Gless

Two awards are proposed each year: EAA fellow for general contribution and the Keith Crock Award for Technical Excellence. Nomination forms will be published in CE. H. Bell and Gless will write guidelines for each award, which will be presented at the next Board meeting for approval.

C. Bell and Slominski reported on the APS Phoenix Electrics. Brooks reported on his investigation into an EAA promotional videotape. It may be a costly proposition to do it commercially. The idea is tabled for now, until we have a larger budget. Skokan will approach the EVRN with a Chapter Startup Package without the videotape.

Brooks reported very positive feedback from the membership. Terpstra is also pleased with the 1995 edition. He made two propositions for 1996: a. sell EAA the rights for \$5K, or publish it himself and sell copies to EAA for \$1 an issue in a bulk purchase. He also mentioned the possibility of selling it to a third party. The Board discussed the possibility of publishing an EAA Resource Directory in similar fashion to a promotional CE six months from the EVBG pub date.

Skokan reported on the GM Impact Preview and legislative activities in California and Washington DC.

The next Board meeting will be held on 5/27 at 10 AM at Tandem in Cupertino.

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News in Brief . . .

Compiled by Ruth M. Shipley from Environmental Information Networks. If this reprinted, please credit CE and Ruth Shipley

Horizon Battery in Demand

Electrosources, Inc. (Austin, TX) has entered into a \$208,000 cooperative test project with the Sacramento Municipal Utility District (SMUD) to test its Horizon battery in 16 SMUD and McClellan Air Force Base EVs for a long-term, on-road demonstration. A SMUD vehicle with the battery recently drove 110 miles in city traffic on a single charge. The company will also customize the Horizon battery to prototypes of Chrysler's NS-series electric minivan, and has signed a \$2,040,000 contract with Solarmax (Sarasota FL) to supply Horizon batteries for use in both new and converted EVs. Solarmax President Dennis Sauve said the company has tested the batteries daily in highway driving, and the results have been "impressive."

For more information, call Electrosource at (512)445-6606.

(BATTERY & EV TECHNOLOGY: MARCH 1995)

EVAA Releases US EV Survey

The Electric Vehicle Association of the Americas (EVAA) "conservatively" estimates that there are 2,078-2,369 street-legal EVs in the US, including vehicles produced by original equipment manufacturers, major converters and upfitters, bus manufacturers and hobbyists.

The association's recent survey found that only 190 of those EVs are OEM EVs from Chrysler, Ford, General Motors and American Honda. There are 906 converted vehicles assembled by conversion companies, while the number of EVs hand-built or purchased by hobbyists ranges as high as 695.

EVAA has published the results of its survey in a 22-page market brief, en-

titled "Electric Vehicle Population in the United States." For more information, contact EVAA at (415)249-2690.

(EVAA NEWS: APRIL 1995)

Ballard Wins GM Fuel Cell Contract

Ballard Power Systems Inc. (North Vancouver, BC) has received a \$4.33 million contract from General Motors to provide fuel cells for an automotive engine. The contract is part of the \$36 million second phase of the joint GM and US Department of Energy program to develop fuel cells for transportation applications.

Ballard will supply over 120 kW of fuel cells for testing and integration by GM into a test hybrid fuel cell engine that will be put into a prototype fuel cell EV in the third phase of the program.

For more information, contact Paul Lancaster of Ballard at (604)986-9367.

(BALLARD POWER SYSTEMS NEWS: 4/5)

NY Coalition Endorses EV Mandate

A New York business-environmental alliance, the Coalition for Clean Air and New York's Economy has urged Governor George Pataki to reaffirm the low-emission vehicle program, including the EV requirement. The coalition's letter to the governor included a list of 60 New York companies that would benefit.

Newly-appointed state Environmental Commissioner Michael Zagata has publicly questioned New York's EV mandate, and the auto industry is lobbying for its repeal.

But some politicians believe Pataki will preserve the requirements. One possible reason: Pataki is hearing a great deal from the business community in favor of the state's clean-car program.

For a copy of the letter and list of companies, contact Frank O'Donnell at (202)293-7800.

(CLEAN AIR BULLETIN: 4/6)

Ford May Use Horizon Battery

Ford has dropped plans to use sodium sulfur batteries in its first generation of mass-produced EVs in favor of Electrosource's Horizon battery. Ford's John Wallace said the US Advanced Battery Consortium, which funds EV research, has decided not to commercialize the sodium sulfur battery.

Though Ford invested significant time and money in the battery, its heat and weight created logistical problems, and funding was trimmed after fires occurred in 2 test cars last year. Currently, 100 test cars are using sodium sulfur batteries, and Wallace said Ford may still use the battery in a later generation of vehicles.

(REUTERS: 4/7)

Mitsubishi Submits Hybrid EV to CARB

Mitsubishi Motor Corp. has submitted a new 4-seat hybrid EV for testing to the California Air Resources Board (CARB). Under normal driving conditions, the HEV is propelled by an electric motor. When the battery falls below about half of its original charge, a small gasoline-powered generator is activated to charge the battery. Once the battery is charged, the car switches back to the electric motor.

The car's regenerative braking feature gives it a reported gasoline consumption ratio of 21.3 km/liter at a speed of 40 km/hour. According to Mitsubishi, the HEV has a maximum speed of 150 km/hour and can accelerate over 400 meters from a standstill in only 22 seconds.

(KYODO: 4/8)

French Government Offers Buyer Incentives

French Prime Minister Edouard Balladur says the government may reimburse EV buyers up to 5,000 French

News in Brief . . .

francs (\$1,027) and the state-run utility Electricite de France would pay an additional 10,000 FF. (\$2,054) per vehicle to car manufacturers or importers.

The government hopes to have 100,000 EVs on the road by the year 2000. Ballardur has also promised assistance to local governments in an effort to increase EVs to 10% of public vehicles in urban areas. More than 20 French cities and towns are involved in EV trials.

France's 2 major car manufacturers, Peugeot and Renault, both participated in the creation of the program. A Peugeot spokesman said the reimbursements would adequately cover the difference between the cost of an EV and that of a conventional car.

(REUTERS: 4/10)

CARB Schedule Workshops & Forums

California Air Resources Board (CARB) chairman John Dunlap has announced a schedule of staff workshops and other public meetings to give the public an opportunity to participate in discussions of the state's ZEV 1998 mandate.

Each workshop or forum will focus on a specific topic, and will feature presentations by staff, expert witnesses, affected industry and other selected parties. All attendees will have an opportunity to participate by presenting information, asking questions and interacting with other participants. Most forums will be held at Annex IV in the El Monte offices of CARB's Mobile Source Division.

The workshops and forums will begin in May and continue throughout the year. Forums and meetings will continue in 1996 and 1997.

For more information, contact Jerry Martin or Allan Hirsch at (916)322-2990.

(CALIFORNIA AIR RESOURCES BOARD RELEASE: 4/11)

B.A.T. Vehicle Completes

Crash Test

B.A.T. International (Burbank, CA) recently crash tested its 1995 electric Geo Metro at the Calspan facility in upstate New York. A 30 mph frontal crash, steering displacement and rollover test were all successfully completed on the vehicle with a wide margin of safety. No leakage occurred during the rollover test, which may soon be required for EVs. B.A.T. credits the location of the battery box under the vehicle and a design that prevents changes to the structural steel framing for the successful crash test result. The company plans to crash test a Ford Ranger truck soon in preparation for meeting Ford's qualified vehicle modifier (QVM) requirements.

For more information, contact B.A.T. at (818)565-5551.

(B.A.T. INTERNATIONAL: APRIL 1995)

Solarmax Corps. to Make EVs in Oklahoma

Solarmax Corp. (Sarasota, FL) will build a 50,000 square foot EV manufacturing plant in El Reno, Oklahoma and establish its first quick-charge stations in Oklahoma and Florida within the next 6 to 9 months. At the plant, an expected 500 workers will convert cars to electric and produce all-new electric trucks, minivans and motorcycles. Production is scheduled to begin next year. The company hopes to reach an agreement with GM,

which has a plant in Oklahoma City, to convert some of its vehicles. Norwil Holdings Inc. in Delaware is helping the EV manufacturer attract \$8 million in venture capital which will be used to help build the Oklahoma facility, expand the company's Florida facility and expand into California.

For more information, call Dennis Suave at (813)351-6443.

(TULSA WORLD: 4/13)

Automakes in Search of ZEV Alternatives

US automakers have hired a West Coast think tank to come up with alternatives to EVs in an effort to avoid California's ZEV mandate. The Rand Corp. (Santa Monica) will conduct the study with funding from the California Manufactur-

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Continued on page 12

News in Brief

Continued from page 11

ers Association, which counts the Big 3 as members. Researchers will explore cost-effective measures for reducing auto emissions.

"Our contention is that the ZEV mandate is not cost-effective," said Richard Klimisch of the American Automobile Manufacturers Association.

All new proposals that evolve from the findings will officially go to the California Air Resources Board, which oversees the state's LEV program. "We're hoping to get a decision this year, given the timetable for starting production for the '98 model year," Klimisch added.

(AUTOMOTIVE NEWS: 4/17)

Massachusetts Wins EV Grant

The Massachusetts Division of Energy Resources (DOER) has been awarded a \$66,000 grant from the US Department of Energy to help fund the Massachusetts Electric Vehicle Infrastructure Program to develop uniform standards for EV recharging stations.

Under the program, DOER will examine zoning safety regulations and removal of any restrictions on the sale of electricity as a transportation fuel. DOER will also perform a technical evaluation of various recharging technologies and, with technical assistance from utilities, will develop uniform specifications for recharging station equipment and create rules for location, installation and long-term maintenance of recharging stations.

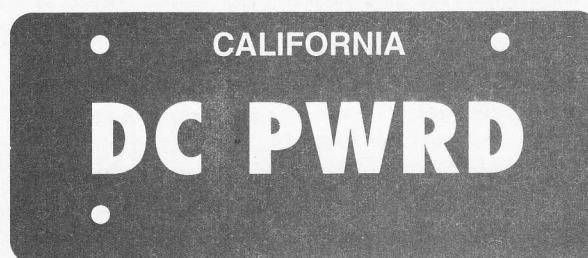
For more information, contact DOER director of programs Jack Bevelacqua at (617) 727-4732, ext. 126.

(MASS. DOER ENERGY REPORT: SPRING 1995)

Electric HOT Plates!

This plate [E WARD], featured in the May '95 CE, belongs to D.A. Clarke, Silicon chapter.

CE will show a vanity license plate from one of our members' electric vehicles. If you spot your license, send us a picture and brief description of your car for publication in an upcoming issue of CE.



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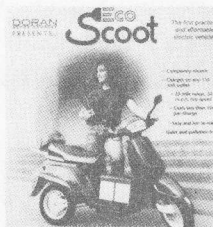


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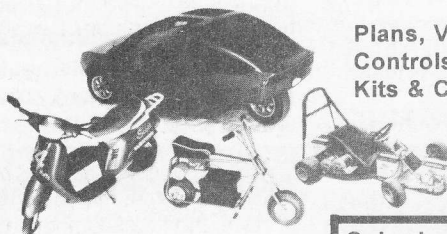


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Events Calendar

June 3 1995	'95 Hot Wheels Car Show in San Jose at the Princeton Plaza Mall. Call Daron Hayton at (408) 378-115 to show your electric.
June 5-13	Chrysler Neon HEV Challenge. Contact Argonne National Lab, 9700 S. Cass Ave. Bldg 362, Argonne, IL 60439. Call (708)252-8677, fax (708)252-3443.
June 9	Formula Lightning Races, Delaware Raceway, London, Ontario. Contact SERA (602)953-6672
Jun. 21-25	An Interdisciplinary Conference on the Environment will be held in Boston MA. (Details were in December 1994 CE).
Jun. 22	Concours de Elegance wants you to show your electric car Stanford University, Palo Alto. Call Anna Cornell to show your car. (510) 685-7580.
June 22-25	Solar Splash Electric Boat Regatta. Milwaukee, WA Advanced Energy Competitions, (602) 774-8474
July 4	Pike's Peak Hillclimb. Sponsored by Chevrolet. Mantous Springs, CO (719)685-4400.
July 11	Sun Sprint of the Rockies. An electric and solar race for all in Aspen CO. Individuals, high schools and colleges are encouraged to participate. For information call Zach Keele at (303) 872-3882.
July 22	Cleveland Electric Formula Classic '95. Formula Lightning Races at Burke Lakefront Airport Raceway. Info: Todd Schneider, (216)447-3200
Aug. 2-4	EV Conference for Fleet Managers. Edison Electric Institute, (202)508-5558
Aug. 11-13	REDI Conference '95. Follow-up to '93 REDI Conference. PV and Utilities, Financing, EV Marketplace where fleet operators meet EV Manufacturers. Plus more! Call (707) 459-1256, or fax a paper to submit: (707)459-0366.
August 12	'95 East Bay Chapter Rally to be held at the North Berkeley Bart Station, at Delaware and Actor Streets, from 9am to 4pm. There are spaces available for alternative energy and vehicle displays. Roll and turning circles tests like last year. FREE admission and no fees! Call Lou MacMillan by July 30th to reserve a space for your booth or vehicle! (510) 525-3636. Anna Cornell has extra registration forms (510) 685-7580 from 10am to 5pm, daily, Pacific time. This is open to all who are interested.
August 26	Rally for the Environment. Featuring clean fuel vehicles like Electric, Natural Gas and Propane. Hosted by Albuquerque Chapter of the Electric Auto Association. Location at Southeast corner of Coal & University, Albuquerque TVI, Ted Chavez Hall, 1800 Coal SE, 9am to 3pm. Activities include exhibits, vehicle displays, scavenger hunt, and ride & drive. Public is welcome. To register as an AFV participant, or exhibitor, contact Dale Riddle (505) 260-0070 or Joan Wolf (505) 768-5345. Fax: (505) 768-5305.
Sept. 12-14	ElectroExpo '95 in Richmond Virginia. Hosted by Virginia Power. Will get further details.
Sept. 16	Silicon Valley Chapter Rally. (Details to follow.)
Sept. 19-22	Fourth Grove Fuel-cell Symposium will take place in London, England. Contact the conference secretary at Elsevier Advanced Technology, PO Box 150, Kidlington, Oxford OX5 1AS UK Phone +44 (0) 1865 843721/843659. Fax+44 (0) 1865 843971.
Sept. 25-30	Trade Show in Paso Robles, CA at Fairgrounds. They would like to invite EAA people to exhibit wares there and possibly take part in a road rally, similar to the ECO Challenge. Call Ben Lovejoy at (805) 438-4646 for information.
Oct. 19-21	First Electric Vehicle Events in Monaco. All American manufacturers are invited to display; companies and teams (like our women's team) to race/rally their vehicles. They are also looking for some AMERICAN SPONSORS. (You'll get your name out there; media will be international. Activities include test drives, and race events. Both Princes will race, too! This is a change to impress the Monte Carlo Government. Deadline for participation is July 21, 1995. More information to follow.
Nov. 29- Dec. 1	Global Electric Vehicle Conference focusing on Evs and their impact on international business and the global environment. Crystal Gate Marriott, Arlington, VA Presented by INTERTEC Publications. Contact JoAnne Romanek, (610)-566-7080 or Betsy Norberg at (913)-967-1865.
July 31- Aug. 5 1996	'96 Scandinavian Electric Car Rally from Gothenburg Sweden to Oslo, Norway. Tour the fjords in your green machine. Sanctioned by Federation Internationale de l'Automobile (FIA). Begins with a seminar on July 31, then the rally. Submit abstract of papers to SECR'95. Travel and hotel compensation available to presenters (confirm directly with them first). Contact SECR'95, Box 53, 401 20 Gotenburg, Sweden. Tel. +46 31-62 60 61. Fax +46 31-62 60 66.

Member Want Ads

FOR SALE: '81 Jet Electrica (Escort). 15,000 miles, PMC controller, new USB 2300 battery onboard charger, \$7,995. Call (415) 964-3974.

FOR SALE: '79 Lectric Leopard LECAR, 10,000 miles, needs batteries (16-6v), some rust, onboard charger, \$850. Call Bob before 9pm @ (201) 998-4435.

FOR SALE: Aircraft Motors. General Electric 2CM73, 300 A Shunt, \$275. General Electric 2CM76, 400 A Shunt, \$325. Jack & Heinz 400 A Shunt, \$325. General Electric 2CM77/88 Compound, \$375. Call (707) 542-4151.

FOR SALE: Surplus Components. Contactors, Controllers, Lugs, Disconnects, Heatshrink, Chargers, DC/DC Converters, Wire, Fuses & more. Also '78 Civic with GE, Curtis. Call Greg @ (916) 455-5200 for list.

FOR SALE: '81 Jet 007. 20,000 mi., refurbished, PMC Controller, DC/DC, Charger. \$7,500/obo. Call (510) 837-7086.

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