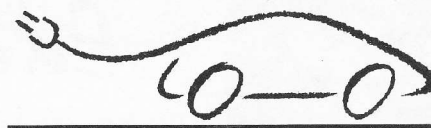


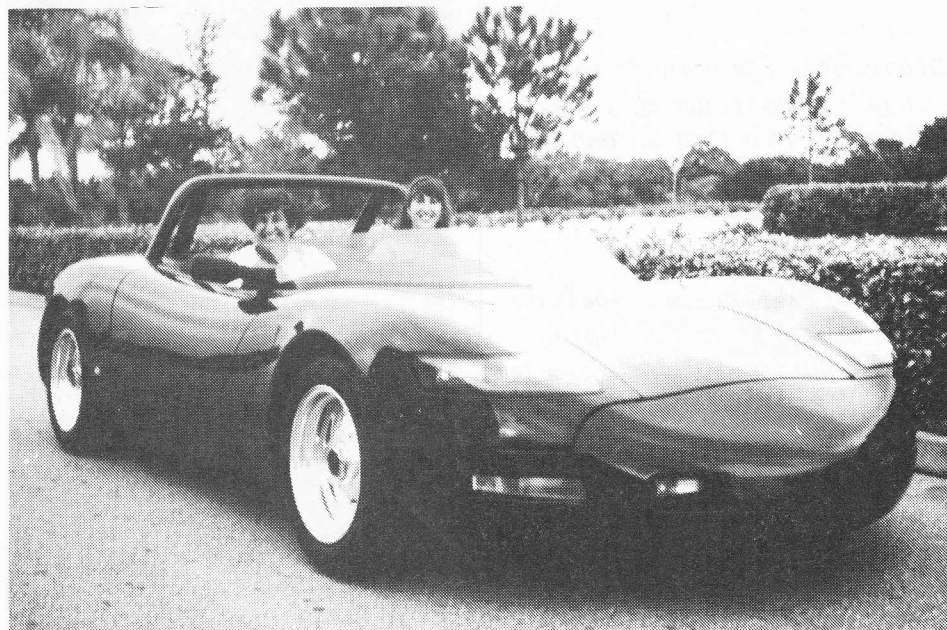
CURRENT EVENTS



April 1994

Promoting the use of electric vehicles since 1967

Vol. 26 No. 4



Tropica Roadster Flies in Florida

BY CLARE BELL

Renaissance Cars, Inc. of Palm Bay, Florida announced that the Tropica Roadster could appear in dealer showrooms late in the first quarter of 1994. Robert G. Beaumont, President and CEO, said, "I firmly believe the time for the electric car is now."

Designed by Dimension 5 of Indialantic, Tropica fulfills Beaumont's EV success criteria of style, performance, price and safety. Design chief Jim Muir accomplished this by combining a super strong lightweight all-aluminum chassis with long lasting and durable ABS vacuum-formed body parts. Muir's creation is almost totally recyclable and virtually rust-free.

Twelve lead-based 6 volt batteries power twin Advanced D.C. Motors in the sporty Roadster for 60-80 miles with a top speed of 64 MPH. A 90-minute recharge can give a 100 mile daily range for about 96 cents worth of electricity or less if off-peak power is used. The 1850 lb. vehicle is 156" long and 72" wide with a road clearance of 5 inches.

A five-pound on-board solid state charger can be plugged into any 110 volt outlet. Energy from the 792 lb. battery pack flows through twin 400 amp MOSFET controllers, giving infinitely variable speeds to the direct rear-wheel drive vehicle. Tropica accelerates from 0-30 in 5 seconds. Goodyear low rolling resistance tires, double wishbone

Continued on page 6

Green Light for NY EVs

BY PERRY GOLDSCHNEIN

A Federal appeals court, ruling against the auto manufacturers, said this month that New York State could enforce California's low emission vehicle program. This includes California's ZEV mandate (essentially a requirement for electric cars), which it adopted in July 1992. The court said, though, that New York would have to wait until the 1996 model year to begin, a year later than the state wanted. The two-year waiting period is required by the Clean Air Act to give the manufacturers time to comply.

The ruling overturned a Federal District Court decision last year that ruled against New York on several points, including the EV requirement, which California plans to start in the 1998 model year. The Second Circuit noted the importance of this opinion by stating that other Northeast states "are awaiting the outcome of this litigation."

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Editor's Note

By CLARE BELL

Lead Tax Alert

Senate Bill 1347 and House HR 2479 will put an excise tax on new and reclaimed lead of 45 cents a pound, bumping up the cost of lead-acid batteries by 25% or more. This could kill EV development far more effectively than any anti-ZEV campaign by Detroit. Ostensibly the purpose is to pay for the removal of lead-based paints from old homes. In truth, lead has not been used in house paint for 25 years.

*The benignly named "Lead Abatement Trust Fund of 1993" appears to be in the least a mistake and at worse a sneaky stab in the back to EVs. The proponents of the measure must be unaware that the fluid-filled lead-acid cells used in the majority of today's EVs ARE extensively recycled. That is what the battery "core" charge is all about. You turn in an old battery and it gets shipped to a recycling site in Georgia, disassembled, the acid neutralized and the lead removed and recycled. If you don't turn in a core, you pay more. For a complete description of the lead acid battery recycling process, see **Why Wait for Detroit** by McCrea and Minner.*

Such a price hike would discourage EV-ers (like me) using present-day lead-acids and who are counting on advanced design lead-acids (such as the Horizon) to eventually drop in price. Even though work continues on other types of batteries, those are long-term solutions and remain too expensive for the near future.

The percentage of batteries recycled is controlled by the price of lead. When that price is high, more batteries get recycled. When it drops, so does the incentive to reclaim battery lead. Diddling with the price by introducing an excise tax might result in a smaller percentage of batteries getting reclaimed, thus increasing the amount of lead entering the environment. We already have a growing problem with the newer sealed lead-acids and gel cells not being recycled and getting dumped in Mexico and other countries. We don't want to add to it by discouraging the reprocessing of standard fluid-filled batteries here in the US.

And for those CE readers who don't drive an EV, remember, there is lead in plain old car batteries too.

Write your Senators and Representatives. This turkey of a bill should not get through.

—CB

(Thanks to Home Power Magazine and Gunnars Petersen, whose letter to HP brought this to CE's attention. Good work, Home Power and Mr. Petersen!)

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Ring Around the Capitol?

Steve Smith, of the Sacramento Electric Vehicle Association, is proposing that EVs form a ring around California's Capitol Building in support of the ZEV Mandate. The CARB ZEV rules come up for review in August and September and there is heavy opposition. Smith would like to demonstrate the practicality and feasibility of today's EVs by having them drive around the Capitol building. Foes of ZEV will have a hard time persuading state officials that EVs can't be built if a bunch of high performing, show-quality EVs are driving around outside. Test-drives in good EVs have won over members of the public; maybe they can win over some legislators as well. Even

if the density gets so high that EVs have to sit in traffic, they will prove their advantage by not generating smog while idling.

Steve wants to know if there is support for such an EV-In at the State Capitol. If he and Sacramento organize something for this spring, would EAA chapters and members in California and nationwide be willing to bring cars and participate? Is there enough support for the ZEV mandate among EAA members to bring this off if Steve and Sacramento spend the time and effort? Please contact Steven Smith, 916-481-5308, if you are interested in participating or bringing a car.

— SS & CB

GM Impact in Demand

As of December 4, 1993, General Motors had received 19,900 phone inquiries — in less than two months — from people who want to volunteer to be part of the Impact EV demonstration program. That number represents callers in three areas: Los Angeles, New York and Harrisburg, PA. The response is "greater than we expected," said GM spokesperson Wendy Makowski. The company is in the process of sending out application forms and screening material so decisions can be made on program participants. Those participants will be able to drive an Impact from a two- to four-week period.

(FROM ELECTRIC VEHICLE PROGRESS)

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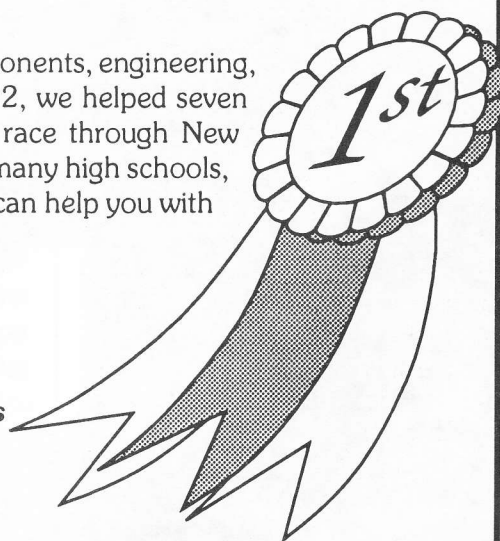
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Wet & Rainy at Phoenix

BY TOM HUETTL

On rain splattered streets in downtown Phoenix, zero emission vehicles braved the weather to give free rides to the public. EV Weekend '93 awareness event to promote and demonstrate the performance capabilities of electric vehicles was a great success. Normally this type of event would be held with lots of sunshine and beautiful conditions. However, Saturday, October 16th, 1993, was not a typical Phoenix day. The weather condition was a slow steady rain and not a deluge which occurs frequently when it rains in Phoenix. The rain did not deter those who were interested or curious about EVs. Over four hundred rides were given and 1400 emission-free miles were recorded in rainy conditions. The four mile course in downtown Phoenix covered all kinds of street conditions, including freeway time through the newly completed inter-loop underpass. After their ride, the passengers were interviewed and stated that the vehicles were clean, quiet and that they were impressed with their performance.

On Friday, the technical inspection, went very smoothly. The weather was pleasant and the quality of the vehicles was impressive. Thirty-two vehicles were inspected and tested in seven hours. They were judged on performance and safety.

Three divisions—Corporate, High Schools, and Privately-Owned—made up the entrants. These vehicles represent a wide variety of different types of batteries and drive trains seen in electric vehicles throughout the country. The corporate vehicles included G-Vans, Arizona Public Service Saturn using Zinc-Air batteries and Advanced DC Motors with Motorola's DC controller, Salt River Project's Ford Probe using NiCd batteries and AC Propulsion's AC Drive. SRP's new Chrysler Electric Caravan, Motorola's Dodge Dakota Electric Test Vehicle and Diversified Technology's S-10 pick-up which crossed the country in 6.3 days in 1992.

Twelve High School electric vehicles participated using DC drive systems and flooded-cell 6 volt batteries with the voltage standard set at 96 volts by the Department of Energy for the previous APS Solar and Electric 500. In the Private Division, these cars represent today's technologies with a mix of both GE systems and Advanced DC motors and PMC controllers. The 1st place privately owned vehicle gave 21 passengers rides and covered 84 miles during the event. The entrants were awarded points for each passenger lap completed within the prescribed time.

The following winners are:

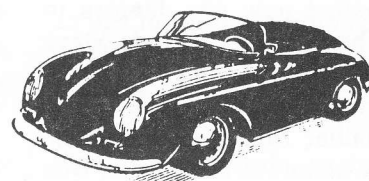
	Corporate	Private	Schools
1st	Sunbelt Battery	Tom Convey	Camelback H.S.
2nd	Diversified Tech	Gene Cosmano	DeNiza H.S.
3rd	SRP G-Van	Milt Stamatis	DeNiza H.S.

This event was organized by the Phoenix Chapter of the Electric Auto Association and sponsored by Salt River Project. Arizona Department of Commerce, Energy Office, Motorola, General Electric, Goodyear, Sunbelt Battery, AMFAB and hosted by Arizona Public Service. —TH

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- H-25, 2500 W H-30, 3000 W
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- Air temp. rise, H-15, 70°F
- Size 4" D x 8" H x 16"-22" L
- Weight - 6 1/4-7 lb

Model H-15
\$345

Model H-25
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Model H-30
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Tropica

Continued from page 1

suspension, 4-wheel zero-drag disk brakes and a very low center of gravity provide superior handling and braking.

Carrying a tentative MSRP of \$10,895, Tropica will come in five popular colors and will be sold through a network of established new car dealers in Florida. These dealers include Steve Moore Chevrolet Geo in Greenacres, Hull Chevrolet in Jacksonville, Vince Whibbs Pontiac Mazda in Pensacola, Tallahassee Motors in Tallahassee, Don Mealy Chevrolet Geo in Orlando, Mastro Motors in Tampa and Steve Moore Acura in Fort Pierce.

A Federal tax credit of 10% of the purchase price went into effect on July 1, 1993.

Tropica is the first in a series of lightweight EVs to be built on the same chassis platform. According to Beaumont, the open roadster will be followed by a pickup and a closed coupe.

A prospective customer who recently visited Beaumont and Renaissance in Florida, said that Tropica handles well and the low-slung racy styling plus the wide track give a real fun-to-drive sensation. He added that while the Tropica was parked, some people mistook it for a topless Viper.

The company has been approached by two Japanese trading companies and a European consortium. However, Beaumont would prefer that Tropica be assembled and marketed in America and is looking for U.S. funding.

Renaissance has a representative in California to handle West Coast inquiries. For more information contact Dennis Kaiser at 407-676-2228, fax 407-676-2229. —CB, from Renaissance Cars press release.

C and D Zapped by Tropica

Renaissance's Tropica has already vaulted one of the most difficult hurdles facing electric cars; getting a fair evaluation in *Car and Driver*. The self-proclaimed *Electric Car Skeptics Quarterly* says that Tropica "shocked us by successfully completing our full battery of tests, by demonstrating reasonable range, and by doing it all at a reasonable price."

Car and Driver author Frank Marcus hit on the essence of Beaumont's formula for EV success; "...a great-looking, fair-weather, short-range urban roadster." Beaumont's "happy-go-lucky goal" unshackles the Tropica from the burden of having to compete on the same grounds as the gas cars in terms of performance and convenience.

Tropica is designed as a great zip-around second car for sun-worshippers and doesn't pretend to be anything more. "A rather loud whir from the motors combines with the wind in your face to make the ensuing acceleration seem much quicker than it is." *C @ D* thought that the Viperish styling didn't hurt either.

On the economic side, *Car and Driver* totted up Tropica's per-mile cost as roughly 2 cents for electricity (Florida rates), 4 cents for battery replacement at 20 K to 30 K miles, 1 cent for brakes and tires to give an overall 6.4 cents per mile, no worse than a gas car. CE suspects that Tropica's operating costs may actually be less.

CE managed to get the answer to the big question that EV-ers are all asking, namely why did Beaumont do a 72 volt car in this era of 120, 144 and 300 V packs? In a telephone conversation, Beaumont basically said that Tropica goes as fast as it needs to and 72 volts worth of 6V batteries are sufficient power for such a lightweight EV. Additional voltage would increase speed, which Beaumont regards as wasteful. For these who would hot-rod their Tropicas with 12 V batteries, Beaumont says that you can store twice as much power in the deep-cycle 6 volters as you can in the 12 volt batteries.

For more information, CE is delighted to recommend the March '94 issue of the *Electric Car Skeptics Quarterly*, alias *Car and Driver*. —CB

Green Light

Continued from page 1

The first ZEV issue the court discussed was whether the New York Department of Environmental Conservation's (DEC's) ZEV sales quota violates Section 177 because, as the manufacturers pointed out, it will limit sales of other California-certified cars.

The Second Circuit, overruling the district court, stated it is "obvious that ZEVs sold in New York will themselves be California-certified cars." "Under the current ZEV plan, manufacturers may sell any number of California-certified vehicles other than ZEVs so long as they also sell the specified percentage of ZEVs. Hence, New York has not acted so as to limit (either directly or indirectly) the number of non-ZEV California-certified cars the manufacturers will sell."

The court indicated that it would not nullify New York's regulations or impair any other state's right to adopt California's LEV program. The court felt that Congress obviously planned for the states to have the option of adopting the LEV program with its ZEV mandates.

The other ZEV issue the court had to address was whether the ZEV mandate would inevitably cause production of a "third vehicle" in violation of Section 177. Section 177 prohibits states from "taking any action or any kind to create or have the effect of creating, a motor vehicle or motor vehicle engine different than a motor vehicle or motor vehicle engine certified in California under California standards (a 'third vehicle')."

The auto manufacturers contend that a 'third vehicle' has been required because in New York's colder climate it will be necessary to install a more powerful heater than the one the manufacturers plan to use in California. The court stated "that whatever heater the manufacturers choose to install on cars sold in New York is a marketing choice of theirs and not a requirement imposed by DEC. "Moreover, California recently amended its definition of a ZEV to permit the inclusion of a fuel-fire heater without altering the zero-emission status of the vehicle."

The court stated in concluding its opinion that: "No doubt as a result of the technology forcing nature of the Clean Air Act, today's automobile as we know it is passing away. But the manufacturers' argument with respect to the difficulty of building a viable ZEV is reminiscent of the view that 100 years ago some thought the U. S. Patent office should be closed because anything that ever could be invented had already been invented." —PG

EVs to Cable Cars

One idea is to set up a non-polluting EV taxi service from San Francisco Airport to the cable car boarding point on Powell St. Why not can start eco-tourism here in the Bay Area so that enviro-conscious visitors can use eco-friendly transport? S.F.'s cable cars are EVs too — they use electric cable-pulling motors and batteries to load-level! Other EV to EV taxi service ideas include San Jose Airport to San Jose Light Rail and various airports to BART.

San Francisco could offer a special set of cab medallions to zero-polluting EVs. Drive the future — catch a cab!

— CB, with thanks to John Newell

APS Phoenix 500 News

SERA has decided to run a pre-registration session on Wednesday night (March 16) of the race week. This will be held at 6:30 PM at the Crescent (the race headquarters hotel). This session will be for the high school DOE Competition entrants and is being done so that the tech inspectors don't have to go through 20 high school DOE entrants on Thursday before being able to get to the Electric Stocks and Open class cars.

Despite problems due to changes in race rules, SERA expects 65 to 70 cars this year. Several of the Open weight classes may have to be changed or combined due to fewer Open entrants in these classes.

The Stock A and B Gross Vehicle Weight regulations are apparently taking a toll on last year's Stock Electric racers. The latest casualty is Gene Cosmano, "Mr. X" who has had to drop out because he couldn't bring his entry in under GVW. Phoenix is going to miss the fun-loving "Mr. X" and CE hopes that he will be back next year. Stock B entries, limited to lead-acid batteries, are using the newer 12 volters and fast-charging techniques to compete in the enduro. Some are planning to heat batteries while charging to maximize capacity. — CB

\$17M For Ways to Cut Car Fumes

The Bay Area Air Quality Management District is looking for ways to cut auto emissions — and it has \$17M to pay for good ideas. Past projects include shuttlebusses, bicycle lockers at BART and train stations, and cars that run on methanol and other alternative fuels. The money comes from a \$4 surcharge on registration fees collected by DMV under a law passed in 1991. Applications for a share of the money are due by April 29, 1994. Call (415) 771-6000.

Disneyland World Clean Air Road Rally

The Rally begins with qualifying on Friday, Apr. 8th at the Eco Expo, L.A. Convention Center, 8AM to 6PM. Following scrutineering, each entry will take part in acceleration, slalom and braking tests. Apr. 9th, Sat. morning, the rally starts with a 25 mile route to Santa Monica Pier. Teams wanting extra endurance points at the venue may drive around a measured course. Sunday, Apr. 10, rally vehicles will travel about 35 miles down the coast to the Long Beach Promenade. Endurance laps can also be accumulated there. Monday, Apr. 11th wraps up with a 25-mile commute to Disneyland, with more endurance laps for the still-juiced and enthusiastic.

Classes

Electric Commuter, College Hybrid Electric, Student Electric, Solars, Alternative Fuels, Buses/Vans and Open.

Charging

Overnight charging will be available at each stop. An electrician will be on duty all night.

Activities

At each venue — Eco Expo, Santa Monica Pier, Queen Mary and Disneyland, there will be races for electrathons, solar model cars, electric radio controlled cars and maybe electric airplanes.

Accommodations

IEGP is making arrangements for hotel rooms for participants, expect \$35 to \$50 per night. A complete list of hotels will be sent out with the rule books.

To enter, send \$50 with filled-out registration form (available from IEGP). Questions? Contact Chris Martin, (818)565-5652.



RARING TO GO — QUIETLY. START OF 1993 WORLD CLEAN AIR ROAD RALLY.

PHOTO CREDIT — PETER HACKES



JESSIE JAMES AND #84 KARMANN GHIA AT CLEAN AIR ROAD RALLY 1993.

PHOTO CREDIT — PETER HACKES



HORLACHER GETS CHECKERED FLAG AT CLEAN AIR ROAD RALLY FINISH.

PHOTO CREDIT — PETER HACKES

EAA Handbook of EV Technology

BY BILL PALMER

Many of you EAA members are experts on many aspects of EV technology. I think there is more expertise among EAA members than any other organization including IEEE, SAE and the auto makers. A lot of EAA members and other EV enthusiasts keep calling and writing EAA asking how to do things and where to get components for their EV projects.

I suggest that we share the wealth of experience — those who know share with those who want to know. I suggest that EAA publish a handbook of EV technology. If enough knowledgeable EAA members will write what they know, we can compile that information into a handbook.

For many years — about 70 — the American Radio Relay League has published the "Radio Amateur's Handbook". Many of us have found it to be the best and most useful source of radio technology. If we do a good job, the EAA Handbook of Electric Vehicle Technology can become the equivalent, preferred source of EV information, the EV amateur's bible.

As a start, please look over the following EV subjects, possibly chapter titles. Do you know enough about any of them to write a few pages of useful information with illustrative photos or diagrams? Add other subjects if you wish.

EV history performance and power requirements, desirable donor car characteristics for electric propulsion, motors, controllers, batteries or other energy storage media. Recharging systems electrical safety, EV maintenance, cables, wiring, switches, relays, controls, connectors, fault protection construction, operator interfaces, instruments and controls, tires, infrastructure, hybrid EVs, sources of EV components.

We don't expect the handbook to be a big moneymaker for EAA, but the cost of publishing should be covered by sales of copies and possibly advertising. Each writer whose material is used will get a free copy and, of course, a by-line. Would those of you who have written "how to do it" manuals on conversion permit us to reprint portions of

your manuals, with your by-line, of course?

If interested, please write me a note saying what subject(s) you would write about, with a brief outline of what you would write and any suggestions you may have for the handbook. My address is 44 Dior Terrace, Los Altos, CA 94022. —BP



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- ◆ Our judge is no stranger to the California electric car buff. Anna Cornell, past president of the East Bay chapter of the Electric Auto Association will be presiding.
- ◆ Come down to beautiful Monterey County for an Earth Day Celebration. Due to space concerns, space will be limited to the first 35 respondents. Please call (408) 757-0661, to reserve a space today.
- ◆ Sponsored by the Monterey County Earth Day Committee and PG&E's Clean Air Transportation Program.



SMARTER ENERGY FOR A BETTER WORLD

News in Brief . . .

*Compiled by Ruth M. Shipley from
Environmental Information Network*

\$30K EV With 350 Mile Range

A spokesman for American Flywheel Systems, Inc. said the company plans to mass-produce a \$30,000 luxury five-passenger electric sedan with a range of about 350 miles that is capable of accelerating from zero to 60 mph in 6.8 seconds.

Michael Deland, who is chairman of the company's Board of Advisors, said the company's patented low-friction bearing design has greatly expanded the market for vehicles that run on flywheel technology. However, none of the Big 3 automakers have shown an interest in the design, according to Deland. For more information, contact Ed Furia at 206-454-1818.

(THE ENERGY REPORT: 1/24)

Stempel to Launch EV Co.

Former General Motors Chairman Robert Stempel plans to launch a new company to build electric or hybrid vehicles. He has joined forces with inventor Stanford Ovshinsky, whose companies Ovonic and Energy Conversion Devices are in Troy, Michigan.

Stempel has been associated with solar racing for many years and thinks automakers will fail in their attempt to derail California's ZEV mandate. He is counting on the backing of the defense industry, academia and state governments for his planned venture. GM might end up buying cars from Stempel, who believes that might be more cost-effective than building the cars itself. "The Big 3 aren't too interested in doing a car," he said. "I guess that leaves an opening."

Stempel is also on the board of the Phoenix-based Solar and Electric Educational Foundation, which is an

umbrella organization of several hundred electric car suppliers.

(AUTOMOTIVE NEWS: 1/24)

Ford Finds EV Tests Successful

Ford Motor Co. recently announced that its Ecostars, European Escorts converted to sodium-sulfur batteries, are reportedly performing well in utilities' fleets and for United Parcel Service (UPS) in Sacramento, CA. In fact, Ford will quadruple its EV test fleet and deliver a second batch of 21 Ecostars to fleet customers early in 1994.

The first six Ecostars — delivered in late 1993 as part of the world's largest EV test fleet — have already logged an average of 1,326 miles in real-world driving. In all, the fleet has logged 7,955 miles through mid-January, 1994, the company reported. Computer logs from the six Ecostars report that, to date, the vehicle's range has averaged 95 miles.

Ecostars are being tested by five utility companies and one delivery company in six metropolitan areas: Southern California Edison in Los Angeles; Pacific Gas & Electric in San Francisco; United Parcel Service in Sacramento; Commonwealth Edison in Chicago; Potomac Edison in Frederick, MD; and Detroit Edison in Detroit. For more information, contact Pam Kueber of Ford, at 313-337-2456.

(FORD MOTOR RELEASE: 1/28)

Solar "Chargeport" for EVs

Working with the South Coast Air Quality Management District (SCAQMD) in Diamond Bar, CA, Southern California Edison and Sandia National Laboratories have constructed a prototype solar recharging station that can service as many as 12 cars at one time.

The solar carport, now called a chargeport, has inverters that change the solar-generated direct current to the

alternating current needed by the battery rechargers. If no vehicles are being charged, the electricity is used in the SCAQMD building to cut electrical bills. On days when sunlight is absent, or more electricity is needed by the chargeport, it can be redrawn from the building. For more information, contact SCE at 818-302-8295.

(UTILITY & TELEPHONE FLEETS: DEC/JAN. 93-4)

Rewiring Home for EV Recharging Could Cost \$700-900

A recent study by Southern California Edison Co. found that the average cost of rewiring a garage for electric vehicle recharging would be \$709 in Southern California and \$874 in Northern California. This included installing a 240-volt circuit, separate meter controls and a circuit breaker.

The utility would pay the initial cost and recover its investment by charging higher rates for recharge time. During the peak hours of noon to 9 p.m., the rate would be about 36 cents/kWh, up to nine times the off-peak rate. The utility also wants to add 12 cents per month to average residential rates in 1995 to fund \$190 million for a public refueling infrastructure for electric and natural gas vehicles.

But the utility would offer a \$1,500 check to those who purchase electric vehicles and would install a home charging circuit within 72 hours. For more information, contact Bill West of Southern California Edison at 800-952-5062 or 818-302-9534.

(THE ENERGY REPORT: 1/31)

GM Request for EV

General Motors may soon stop recruiting volunteers to test-drive the Impact due to the overwhelming response. GM expected fewer than 5,000 responses

Continued on page 11

News in Brief . . .

from a flyer that went out with utility bills in New York, but received 14,000. In Los Angeles, 9,300 volunteers responded, more than twice the number the company expected.

Only about 1,100 people in 12 U.S. cities will have the opportunity to drive an Impact for two weeks each. GM is building 50 prototypes. Company officials estimate the car will cost between \$25,000 and \$30,000, but other carmakers say they would not make a profit at those prices.

Residents of Atlanta, Fort Lauderdale, Harrisburg, PA., Houston, New York, Long Island, NY, Los Angeles, Phoenix, San Francisco, San Diego, Sacramento, CA and Washington, DC will participate in the test-drive.

(CHICAGO TRIBUNE: 1/6)

BAT & SAIC to Produce Economical EVs

Science Application International Corporation (SAIC) will establish a strategic alliance with Battery Automated Transportation (BAT) of West Valley City, UT to further the research and development of electric vehicles and the production of EVs that are economically feasible.

The alliance will soon include several utility companies and the U.S. Air Force headquarters at Ogden Air Logistic Center (Hill AFB, UT). This will allow Hill AFB to transfer some of its military capabilities to industrial and commercial applications, enabling the base to maintain its military capabilities while using its research facilities to further the transportation and environmental efforts being pursued by the Federal government and many states.

This effort also could further the development of exports outside the U.S. and especially to Mexico, according to BAT. The EV company already has agreements with Mexico to ship EV components and kits for the conversion of Volkswagen Beetles and Nissan Sentras in Mexico. For

more information, contact Mike Jensen of BAT at 801-975-7337.

(BATTERY AUTOMATED TRANS. NEWS: 2/10)

EV Recharge in 18 Minutes

Electronic Power Technology, Inc. (Atlanta, GA) is proving that conventional lead-acid batteries in an EV can be charged in 18 minutes. A prototype of the company's rapid-charging system was recently tested at a 24-hour EV endurance run at the Atlanta Motor Speedway sponsored by the Southern Coalition for Advanced Transportation (SCAT).

The EPTI rapid-charging technology is suitable for batteries in a range of voltages, amperages and chemistries, including nickel cadmium and nickel metal hydride batteries. Tests are underway for charging zinc air and lithium batteries.

For more information, contact Karen Robinson of EPTI at 404-449-1104, John Wilson of SCAT at 404-526-7228, or Sheila Lynch of the Northeast Alternative Vehicle Consortium at 617-367-8540.

(SCAT NEWS: 2/12)

Entrepreneur Introduces Czech EVs to Canada

A Czech-Canadian entrepreneur has started importing an electric-powered version of the Czech automobile Skoda in his adoptive homeland, Canada.

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According to importer Thomas Faul, about 400 Skoda Electras have been sold in Europe since its introduction two years ago. He hopes to sell about 160 of the EVs in Canada this year, mostly to utilities and delivery fleets. The \$27,500 EV (\$21,000 U.S.) made its Canadian debut at the Toronto International Auto Show on February 18. The Electra is a converted Skoda Favorit subcompact that uses lead-acid batteries and a 20-horsepower DC electric motor. It has a range of 50 miles and a top speed of 50 mpg.

But Faul expects to use a more advanced lead acid battery built by Horizon Battery Technologies, Inc. (San Marcos, TX) that will increase performance. In addition, his own engineering firm, Rama Wheel Corp. (Orillia, Ontario) is developing a flywheel energy storage system. He hopes to begin producing the car in Canada if demand is high.

Calendar of Events

APRIL 8-10 - 4th Los Angeles Eco Expo, Los Angeles, CA. For information on show or exhibiting, call (818) 906-2700. Electric Grand Prix's Chris Martin is organizing speakers. Please call Chris at (213) 465-4488.

APRIL 7-10 - IEGP Disneyland World Clean Air Road Rally. Starts at L.A. Eco Expo and challenges daunting traffic and road conditions of 21 Southern Calif. cities. Heavy media coverage. For more info, call Peter Hackes at (310) 430-9799. (See photos, p. 8.)

APRIL 11-13 - Renew '94. Sheraton Stamford Hotel, Stamford, CT. Two-day conference on the benefits of renewable energy. Sponsored by U.S. Dept. of Energy, Northeast Utilities, and Niagra Mohawk Power Co. Contact NESEA (413) 774-6051.

APRIL 15-17 - IEGP Exide Edison Electric Grand Prix, Long Beach, CA. Race on the 16th, displays throughout. Call Chris Martin: (213) 465-4488

APRIL 17 - Friends of the Anzar Hills Fundraising Event, Aromas, CA (south of San Jose.) They want 10 Electric Vehicles to display there. Contact: Henry Gonzales (408) 944-0800.

APRIL 23 - PG&E Earth Day, Toro Park, Salinas, CA (off hwy 68). Contact Spencer Erickson (408) 755-3347. (See Pg. 9)

APRIL 24 - SunDay 1994. Nation-wide activities celebrating renewable energy, energy conservation, efficiency and sustainability. Includes transport, which means EVs. Fifty environmental organizations involved. Contact Ken Bossong Tel. (301) 270-2258 Fax (301) 891-2866

APRIL 24 - Pacific Coast Dream Machines, Half Moon Bay Airport, CA. Public hours: 10-4. \$10 per vehicle fee. May be waived if a large group of EVs go. Over 1000 vehicles displayed last year, 20,000 people attended. Spectators - \$10 adults, \$3 juniors and seniors. Benefit show. For info and entry forms, call (415) 726-2328.

APRIL 28-30 - Electric Vehicle Grand Prix '94. Sponsored by Edison Institute and U. S. Dept. of Energy. 22 high schools and colleges will compete. Call 1-800-334-4688 for more information from Edison, Janet White at (609) 691-0907. Also, Mike Duoba (Argonne National Labs) 708-252-6398.

MAY 2-6 - UCLA Electric Vehicle Technical Course. Seven lecturers will speak on several

subjects, such as Motor Tech. Call (310) 825-3344 or fax (310) 206-2815.

EARLY MAY - Lightnings race at Richmond International Raceway, Richmond, VA. High School Competition. SERA has not set date yet, but stay tuned. Tel.: (602) 953-6672 Fax: (602) 953-7733.

MAY 21 - Car Show, Princeton Plaza Mall, San Jose, CA. Blossom Hill Rd. at Meridian. Inviting electric cars to display. Show hrs 9:30AM-4:30PM. Call Anna Cornell, 1-510-685-7580 for more info.

MAY 21-22 - Tehachapi Wind Fair at Mountain Valley Airport, CA. Sponsored by Kern Wind Energy Assoc., So. Cal. Edison Co., Mountain Valley Airport and others. Displays: solar panels, electric vehicles, wind turbines. Attractions: Kite flying, sky diving, to name a few. For information call: Paul Gipe at (805) 822-7956 or Warren Grass at (805) 822-3222.

MAY 21-28 - American Tour De Sol. Runs from New York to Penn. Contact Nancy Hazard: (413) 774-6051. 23 Ames St. Greenfield, MA. 31301

MAY - JUNE - The Eyes of The Classics, held At The FORD estate. Classes of Antique, Indy cars, etc. Would like to invite 15 electric cars of show quality. For information, call Steve Pasteiner at (313) 852-2900.

JUNE 20-24 - 10th World Hydrogen Energy Conference, Cocoa Beach, FL. Call Carolyn Burby, Florida Solar Energy Center, (407) 783-0300

JUNE 25-26 - Solar Prosperity has changed its exhibition into a road rally for electric and solar cars. Electrics will make a 50 mile loop while solar cars are to traverse a 100 mile loop. Exhibits at rally site. Call 510-869-2759 or Marianne Walpert at 415-508-1489. Northern Calif Solar Energy Assoc. P.O. Box 3008, Berkeley, CA 94703.

JULY 8-10 - Formula Lightning support race to IndyCar Cleveland Grand Prix. Burke Lakefront Airport, Cleveland, OH. Collegiate teams competing, including exchange pit stops. Contact Kevon Makell, Centerior Energy, Cleveland, OH. Tel. 447-3552.

ANNA CORNELL, EVENTS CO-ORDINATOR, 510-685-7580

Member Want Ads

FOR SALE: 1992 Professional Conversion, Ford Escort Station Wagon, with on-board charger, heater, power brakes, heavy duty suspension, high-pressure tires, 1 1/2 years on batteries. Portland, OR; can deliver. \$11,750. Call (503) 331-1281.

FOR SALE: Lectra 200SX hatchback, 114 volts, Prestolite 20 hp w/regeration, 5-spd, gas heater, full pwr 4-wheel disc brakes, PMC PWM, needs batteries, minor body work & paint. \$2,500. Call (415) 388-0838.

FOR SALE: 1981 Jet Courier truck, GE 20hp gas heater, 4-spd, batteries under bed, PMC PWM, runs very well. \$6,500. Call (415) 388-0838.

FOR SALE: Bradley GT II Electric Car Kit, Must sell. Still in original boxes. Call Jack @ (510) 935-1503. Leave message; will call back.

WANTED: Ford Pinto converted to electric, semi-finished project car OK, or reasonably priced finished car. Call (201) 839-9053 - NJ

Rates for Want Ads

\$5 for the first 30 words. For each additional word, 25 cents per word.

Want Ads are available to EAA members for the sale of electric vehicles and related products. For display ads for commercial products, please see the Advertising Rates. Send your want ads to EAA Want Ads, 18297 Baylor Avenue, Saratoga, CA 95070. The check should be payable to EAA and included with your ad. The EAA is not responsible for the accuracy of ads.

Chapter News

Send contributions to:
Ruth M. Shipley 102 Brighton Rd. #3
Pacifica CA 94044
(415) 359-1541 CompuServe ID
73043,60 Internet
73043.60@compuserve.com

Phoenix AZ

New 1994 officers are Dan Parmley (Pres.), Dave Bentler (V.P.) and Kent Johnston (Secy/Treas.). Dan owns a company that manufactures EV infrastructure components and operates an electric courier service in Phoenix. Dave is head of the EV program at APS, and Kent is a mechanical designer. They had a record turnout for their January 1994 meeting. They discussed the 1994 APS race, the International Electric Grand Prix and several other EV events.

Vancouver BC

1994 officers are: Warren Bourgeois (Pres.), Karl Cremer (Past Pres.), Bob Wells (Secy.), Bill Glazier (Treas.). Members applied to the BC Gaming Commission for two nights at the Royal Diamond Casino and told the Commission they would use the money to fund Electrathon activity at 10 local high schools. The Commission was so impressed with their application it granted their request and they made over \$18,000. By law, they must spend the money on charitable projects. They will purchase and donate all parts to the schools, which will gain valuable experience building electric racecars. Bill Glazier says the Commission may grant them two more nights for this worthy project. Congratulations, VEVA!

East Bay (San Francisco) CA

Program Director Lou MacMillan invites all Bay Area members to attend two upcoming East Bay meetings. On April 9, John Boesel from CALSTART is speaking, and an official from GM has agreed to speak on May 14. Lou hopes that he can pack the house for the GM speaker, so he encourages everyone to turn out.

They meet at the PG&E Service Center, 4801 Oakport St., Oakland, at 10 a.m.

New England

Members recently elected the following officers: Peter Hays (Pres.), Larry Cassese (V.P.), Bob Batson (Treas.), Anna Brown (Secy.), and Bob Batson will also handle membership. Lucy Peddler, a member of the Odyssey Group, spoke at a recent meeting. The Group won the "Electric Vehicle and the American Community" design competition. The chapter is planning a group conversion to enter in the 1995 NESEA Tour de Sol. They would like to hear from any other chapters/clubs that have done this. They would also like to hear about successful rallies, races and exhibits.

Sacramento CA

At a recent meeting, members heard Cece

Martin, Deputy Executive Director of the California Electric Transportation Coalition, discuss various EV policies and how they affect utilities. She urged them to contact their representatives in an effort to defeat AB2495, the bill introduced into the California Assembly to overturn the state's ZEV mandate. SEVA is also starting a scrapbook of EV articles.

San Diego CA

At a recent meeting, Gary Jackson brought a cut-away model of a lead acid battery and discussed its construction, advantages and

disadvantages. Bruce Engman showed a video on the Lund wind turbine.

San Francisco Peninsula CA

The chapter wants to be the order processing center for all fund-raising items, and will pitch this proposal to the Board. Professor Lun Jingguang, accompanied by Roy Kaylor was welcomed by chapter members. Professor Lun is the head of the EV Project at Tsinghua University in Beijing, which is China's MIT. They are developing a rare earth magnet DC motor and a prototype 3-phase AC motor. However, automobiles are not allowed on many roads, so they are focusing on electric bicycles. They use lead acid batteries, but are also researching nickel metal hydride batteries.

Do more and more EV REGULATIONS keep your head spinning?

EV incentives, as well as other EV-related laws and regulations, have been called a complicated patchwork by Kateri Callahan, Executive Director of the Electric Transportation Coalition. Issued by the federal government as well as by various states, EV-related policies have become a popular solution to our environmental, energy and economic problems.

We're not complaining and neither should you — these policies are driving the industry and will continue to do so for the remainder of the decade. However, this complicated patchwork is getting more complicated all the time. Those involved in the industry need a resource to sort through this legislative and regulatory mess.

Without an understanding of existing and proposed legislation and regulations, beneficial information regarding incentives cannot be passed on to customers; business tax deductions, emission reduction credits and other benefits cannot be realized; and safety compliance cannot be achieved.

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Board Highlights

The primary action taken this month was to review proposed amendments to the By-Laws. These will be passed by EAA's legal council and if approved, will be voted on at the next Board meeting in Phoenix during the APS 500.

The amendments cover a wide range of subjects, from adding emphasis on weight reduction in EVs by means of lightweight body construction to the correct handling of proxies during meetings and elections.

Amendments of note that have not been previously mentioned include: a one week written notification or 48hr verbal notification of all directors prior to any urgent or special meeting, procedures on filling Board vacancies, 3 year (maximum) terms of service for Board members, guidelines for presenting awards, publication of information packages, lecturer's material, chapter startup kits or other materials designed to promote the cause of electric autos, authority of the Board to create committees, and allowing more than one class of membership, but ensuring that each member, regardless of class, has only one vote.

As announced previously, the March Board Meeting will be in Phoenix, AZ during the APS 500 race, March 18th, 7:30 to 9:00 pm at the downtown Phoenix Arizona Public Service Co. Building, 401 N. 5th St. Arizona Center 2.

Phoenix Chapter members have invited members of the EAA Board to dinner on Sat. March 19th, followed by an evening of informal discussion.

The April EAA Board meeting will be held in Los Angeles to coincide with the Disneyland Clean Air Road Rally and Exide Electric Grand Prix. The exact time and place has not been set.

Electric Auto Association Code of Ethics

1. The Electric Auto Association will conduct itself in a professional manner in all public and private actions, respecting the rights and beliefs of all parties.
2. The Electric Auto Association will make every effort to ensure the information provided to its members and the public is true, reliable and accurate and will not willfully misrepresent any material fact when disseminating that information.
3. Gathering and disseminating information about products and policies is one of the primary functions of the Association. Under no circumstances will a member of the EAA violate any law to obtain information nor distribute information by an illegal means.
4. The EAA will respect the confidentiality and intellectual property rights of all members of the EAA as well as member and non-member businesses. The Association will not willingly release, reproduce or distribute restricted information provided to the EAA under non-disclosure without the consent of the owner.
5. The EAA will inform members and the public of developments and availability of products or services, but will not endorse any product or service.
6. The Association's name should not be used or implied in the promotion of any product or service.
7. All officers and board members will use the resources of the Association to achieve the Association's goals to the best of their ability; personal gain shall not be a consideration in conducting the Association's business.
8. Any officer or member of the Board of Directors of the EAA who has a potential conflict of interest between EAA activity and other activities and relationships shall 1) inform the membership that elects them of the potential conflict; and 2) abstain from participating in balloting or other determination of Association business related to the potential conflict.
9. All members have a responsibility to report unlawful or unethical conduct associated with any Electric Auto Association activity to the officers or the Board of Directors of the Association.
10. The EAA is open to all individuals regardless of sex, age or ethnic background. Discrimination or harassment by or toward any member will not be tolerated.

Board of Directors

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FAX: (415) 306-0137

Mike Slominski, (Treasurer)
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▼ For changes to the ad copy, new camera ready copy must be received *before the 1st* of each month for the next issue and must be the same size to qualify for the discounted rate.

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▼ Deadline for camera-ready copy is the **1st of the month**. The due date for future issues of Current EVents is as follows:

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June issue

April 1st
May 1st

Please contact Susan Hollis, Advertising Manager at (408) 374-8605 or by FAX at (408) 374-8750 for additional information or assistance. Camera-ready copy and payment for the ad should be sent to: **Electric Auto Association, Attn: Advertising Mgr., 18297 Baylor Avenue, Saratoga, CA 95070**

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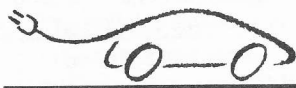
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April 1994

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