Volume 25, Issue 6 EVAOSD Newsletter June 2015

Charged Up

ELECTRIC VEHICLE ASSOCIATION OF SAN DIEGO (EVAOSD)
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Webmaster: Russ Lemon
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Monthly Meetings: During the 4th week of the month, day depends on venue.
(No Meeting in December).

Meeting Location, Date and Time:
Center for Sustainable Energy
9325 Sky Park Court, Suite 100
San Diego, CA 92123
Tuesday, 23 June 2015, 6:00 P.M.

Program: Summer Party and Car Show

Inside this issue:

Newsletter Topics:

AIRBUS EV

More EV variety in CA

RIMAC EV vs Pikes Peak

Message from the President

Hi All,

Don’t forget our annual summer picnic meeting next week! It reminds us of why we are in this association. We are here to spread the word of EV, to discuss where the industry is going, to convert gas holes to electric inlets, and to have some fun.

Speaking of fun, I have been thinking about potentially buying a new EV. I did notice one problem with these thoughts. Since I had been on the hunt for an EV for over 2 decades and my choice was based on availability, I have forgotten the factors that drive my choice of a new car! Now that there are many EVs on the road and available at dealerships, which one do I choose! What features, styles, and sizes really made my want to crack open my checkbook. This all stems from seeing the Mercedes EV. I thought “WOW, I could own a Mercedes and it would be an EV!". Not that I am going to run out and buy one, it just made me happy that I can get back into the things that make cars fun not just how they are fueled.

-Joseph

Mercedes-Benz B-Class All- Electric

E-Fan 2.0 makes podium appearance at Le Bourget

By Paul Ridden, www.gizmag.com, June 17, 2015

When we first covered the news of the E-Fan's first public flight, Airbus was only showing an artist's impression of what the production model of the two-seater electric demonstrator could look like. But this year the company had a full-sized version on display at the 51st Paris Air Show. In addition to straining our ears to listen to hear the original aircraft in the air above Le Bourget, we got the opportunity to rub shoulders with the sleek and sexy E-Fan 2.0 electric pilot trainer.

The original E-Fan plane, now called version 1.0, evolved from the electric Cri Cri flying laboratory project and allowed engineers to get a hands-on feel for work in this burgeoning area of research and development. The design of the new demonstrator aircraft began in late 2011. It was unveiled at the 50th Paris Air Show in 2013, made its maiden flight a few months later and has since made appearances in the air above the Farnborough and ILA Berlin air shows.

Two electric motors, 32 kW each, drive a pair of ducted, variable pitch fans positioned toward the center line of the carbon fiber composite body, which quickly and quietly get the E-Fan to a takeoff speed of 110 km/h (68 mph), 160 km/h cruising speed and a top speed of over 200 km/h. The aircraft also has an electrically-driven aft main wheel to taxi and assist with acceleration during takeoff.

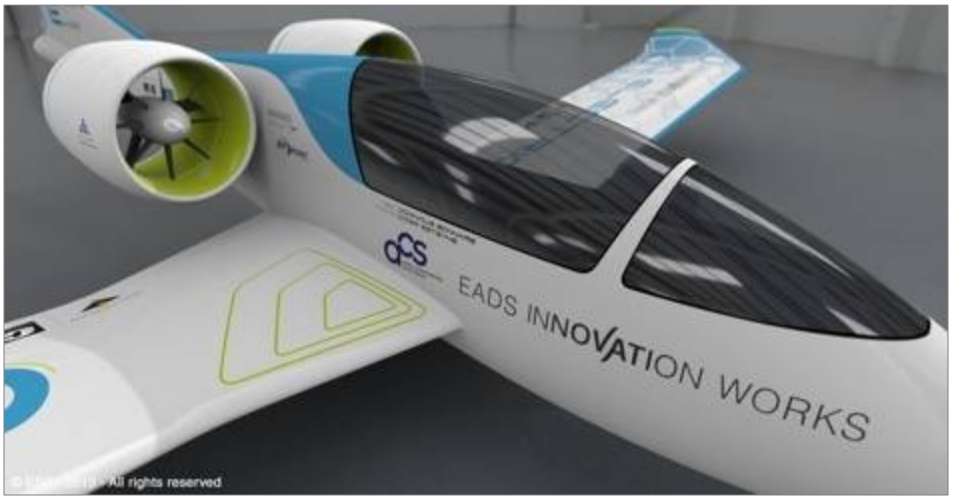
Its 29 kWh Li-ion 18650 batteries can be found in the inboard section of the wings (catering for ventilation and passive cooling) and offer from 45 minutes to an hour of flight time per charge, with the design also allowing for battery pack hotswaps. Electrical system management is undertaken by a full authority digital control (e-FADEC) system to reduce pilot workload.

Much of what the Airbus Group has learned over the last few years will be incorporated into the "world's first series production electric planes" – the E-Fan 2.0 and 4.0 aircraft. Work on the new all-electric, battery-powered two-seater pilot training flavor and the four person hybrid electric motor/combustion engine version will be undertaken by Voltair SAS, a wholly-owned subsidiary of Airbus, which will also offer post-production services.

Both aircraft will be built at an upcoming 1,500 sq m (16,000 sq ft) facility located at Pau Pyrénées Airport in the southwest of France, within the country's so-called "Aerospace Valley."

Construction of the E-Fan assembly line is expected to begin next year. The first E-Fan 2.0 is set to make its maiden flight in late 2017, followed by the series aircraft rolling out to customers the year after. An initial production rate of 10 aircraft per year has been targeted, with the facility capable of growth depending on market demand.

The Airbus Group has committed to investing €20 million (about US$22 million) in the development of the E-Fan 2.0 production aircraft, and will be pitching for CS-LSA certification to international civil airworthiness standards with a maximum take-off weight of under 600 kg.



Designed for basic pilot training, it has a 10.98 m (36 ft) wingspan, is 5.67 m (18.6 ft) from nose to tail and is under 2 m at its highest point. The aircraft will feature side-by-side instructor/student seating in what Airbus is calling a Connected Cockpit, where the Primary Flight Display will be supplemented by a tablet-like device that will allow the pilot to prepare a flight plan away from the E-Fan 2.0 and then plug it into the instrument panel to act as the navigation and training display. Data recorded during the flight can be retrieved from the tablet later for evaluation, logging or training purposes.

Airbus is looking to use new higher density batteries for its production version electric airplanes and says that the ground-based charging station will bring them to capacity in 1.5 hours. Instructors and students can then expect a good hour in the air between charges, with a 30 minute reserve just in case an emergency landing needs to be undertaken.

At this time, there's little solid information available on the four-seat hybrid airplane, where the combustion engine will be used to extend the range of the aircraft. The E-Fan 4.0 is being developed for full pilot license training and the general aviation market and the Airbus Group is currently eyeing a production window of 2019.

California bends but doesn't yield on ZEVs

Plug-in hybrids enough to get small car makers credits

Automotive News, May 30, 2015

California environmental regulators have decided that even the smallest automakers will have to comply with ambitious clean-car rules that mandate the sale of zero-emission vehicles.

But the state is giving them some wiggle room. At a May 18 hearing, the California Air Resources Board rejected a plea from Jaguar Land Rover, Mazda, Mitsubishi, Subaru and Volvo to push back the date by which smaller automakers must sell zero-emission vehicles, or ZEVs. They had argued that their small r&d budgets will keep them from developing and selling electrified cars as easily as full-line automakers such as Ford, General Motors and Nissan, which already must sell ZEVs.

The board's decision makes the five smaller automakers subject to the rules beginning in 2018 and affirms Gov. Jerry Brown's goal of getting 1.5 million ZEVs on California roads by 2025.

Even so, regulators did tweak the rules in their favor. Automakers with less than $40 billion in annual global revenue -- which includes Jaguar Land Rover, Mazda, Mitsubishi, Subaru and Volvo -- now will have the option to sell plug-in hybrids only to earn "credits" toward compliance, rather than being forced to sell some all-electric or hydrogen cars. If they don't sell enough, they'll still need to buy credits from companies such as Tesla Motors Inc. that sell electric cars in large numbers. Tesla banked $51 million in the first quarter from selling ZEV credits to other automakers.

The small automakers said they were grateful for the changes, which would help them "meet the regulations with cars, not credits," Clinton Blair, vice president of government affairs at Jaguar Land Rover North America, said during the May 18 hearing.

But to some critics, the change weakened the program. Ken Morgan, director of business development and government affairs at Tesla, said there is an oversupply of credits in the market. Morgan said that just 600,000 ZEVs, well shy of Brown's goal, would be delivered by 2025 if the oversupply makes it cheaper to buy credits than to sell electric cars in California. He said smaller companies shouldn't be given a break because "they have billions of dollars in operating profit and cash on hand."

It's unclear how Mazda and Subaru plan to meet their obligations under the mandate. Mazda sells no electrified cars, aside from a hybrid Mazda3 sold in Japan with technology licensed from Toyota. A new technical "marriage" with Toyota may give Mazda wider access to Toyota's hydrogen and plug-in hybrid powertrains.

Subaru sells a Prius-style XV Crosstrek hybrid in the U.S., but it sells no plug-ins anywhere in the world. It leased an electric minicar called the Stella EV in Japan from 2009 to 2011 but discontinued it because of weak demand.

Mitsubishi, which sells a plug-in hybrid version of its Outlander in Japan and Europe, plans to launch it in the U.S. in early 2016 after a series of delays. Volvo plans to sell a potent plug-in hybrid version of its new XC90 in lieu of a V-6 or V-8. Jaguar is reportedly developing an electrified version of its forthcoming F-Pace crossover.

California still may tweak its rules further during a "midterm review" due to take place in 2016. Daniel Sperling, a University of California-Davis professor and a member of the Air Resources Board, is pushing hard for a bigger emphasis on plug-in hybrids, though some of his colleagues on the board think any solution that involves using gasoline is inadequate.

Sperling argued at the May hearing that hybrids with large batteries could run on electricity 80 to 90 percent of the time, while using gasoline for long road trips only. If they're also more palatable to car buyers, he said, they actually could reduce California's air pollution faster than pure EVs.

"The goal should be to strengthen the ZEV program," he added. "I agree that we can get more vehicles out there, but they might not be the vehicles we thought they would be a few years ago."

Monster Tajima Bringing 1,475 HP Rimac EV To Pikes Peak

01 June 2015 by Christopher DeMorro, Gas2.org

Last week Rimac Automobili teased its latest endeavor in a brief video, though it didn't take much digging to find out what they had in store. Rimac teamed up with famed Pikes Peak racer Monster Tajima to build a new 1.1 Megawatt/1,475 HP electric vehicle that they hope will set a new overall record for the famous Race to the Clouds.

Tajima already set a new record for the electric vehicle class back in 2013, climbing the hill in 9-minutes and 46 seconds, matching Rhys Millen's record run from the previous year. In other words, EVs aren't that far behind the combustion-powered race cars, and Tajima seems single-minded in his goal despite coming up short of the overall record. That's why he turned to the electric vehicle expertise of a company like Rimac, which built the 1,088 horsepower Concept_One at a time when many automakers are struggling to build even basic EVs.

What Rimac came up with is the Tajima Rimac E-Runner Concept_One, an all-wheel drive race car with four independent hub electric motors, one at each wheel, eliminating the need for both a transmission and differentials. That means nearly 100% of the power generated by each motor is put directly to the road, and instantaneously at that. The E-Runner also gets the Concept_One's All Wheel Torque Vectoring (AWTV) system that adjusts power output in each motor more than 100 times per second. That means a whole lotta handling ability, especially important for the Peak's 156 turns across its 12.42 mile course.

We measured 0-100 km/h in 2,2 seconds. 200 km/h comes in 5,4 seconds from a standstill. Cornering forces and stopping numbers are also impressive, but let's not spoil the surprise. We are quite confident that Tajima Rimac E-Runner Concept_One will break previous year's record. He is a great driver with tons of experience. Interesting fact – he raced Pikes Peak his first time a year before I was born. 28 years later, we work alongside to push the limits further. With the support of our best engineers and technicians, our technology, powertrain, battery-system and Torque Vectoring, he will be able to push the boundaries of electric race cars to a whole new level. Working with Mr. Tajima and his team is an amazing experience of which we enjoy every second," says found Mate Rimac.

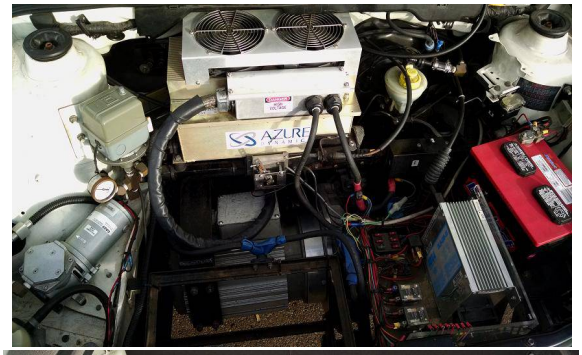
On board will be a 57 kWh battery pack of Rimac's design, pushing the E-Runner to a top speed of 270 KPH/167 MPH, and darting from 0 to 60 MPH in 2.2 seconds. Because it only needs to go 12.42 miles, there's no real worry about total driving range, though I doubt Rimac made the battery any bigger than absolutely necessary considering the E-Runner weighs just 1,500 kgs/3,306 lbs. On paper, it's the perfect Pikes Peak racing machine, but the mountain is not known for being easy or forgiving, and he won't be the only racing legend in an electric vehicle this year.

Can Monster Tajima make history with a Rimac-built electric race car? We find out at the end of this month.

FOR SALE: 1998 VW Golf EV Conversion

Range: 50-60 miles, driver dependent
Top Speed: 85 MPH
4 KW 120V/240V Manzanita Charger
recharge time: 4 hour
Azure Dynamics Motor/Controller
97 X CALB 60 AH Cells, 19 Kwhr Batt Pack
62 HP, 73 FT-LBS
5-Speed Manual Transmission
Power Brakes, Power Steering
Displayed at SD International Auto Show for four years, and my daily driver
Selling due to buying a LEAF for Family use

Contact Dave Crow, (619) 846-5358 (cell)
deekcrow@yahoo.com
$4,900 or OBO



Electric Auto Association (EAA) Membership Application Form

Fill out this form, attach a check, money order or use PayPal, in US funds only, payable to 'Electric Auto Association'. CE = Current EVents newsletter

e-CE ☐ $35 USA & other Countries ☐ $25 Student ☐ $25 Senior (>65-USA/Canada only) birth year ____

paper CE ☐ $45 USA ☐ $48 Canada ☐ $52 World ☐ $29 Student ☐ $29 Senior (>65-USA/Canada only)

☐ $120 (supporting level-1) ☐ $240 (supporting level-2) ☐ $500 or more (high voltage)_____ ☐ do not list my name

I support the _____EAA Chapter (additional chapters, $10 each) _____

☐ ($10 each) Additional Chapters or Special interest group (other than the one that comes with the membership)

You can fold this form as indicated and mail it with your payment enclosed. Use tape to seal the form, **on the sides** , before you mail it or send an e-version of this form, through PayPal using http://electricauto.org/eaamembership.html

☐ New Member ☐ Renewal

Name _____ email _____

Mailing address (Apt. #) _____ Home phone _____

Mailing City, State & Zip-8 _____ Work phone _____

☐ Electronic version of Current EVents, paperless only, link sent by email, if your membership was for the e-version, that is what you will receive

☐ Do you own or ☐ Lease an electric vehicle (plug-in) ☐ production ☐ conversion ☐ bicycle ☐ hybrid or ☐ None

please include miles driven and type of vehicle _____

All information in this application is for the exclusive use of the EAA and not sold or given to any other organization.

Please identify your primary areas of interest relating to the EAA (check as many as your wish

☐ Owner/Driver ☐ Hobby/Builder ☐ Professional/Business ☐ Competition (Rallies, Races, Records ☐ Plug-in Hybrids

☐ Environmental/Govt. Regs ☐ Social (Rallies, Shows, Events ☐ New Technology & Research ☐ Solar & Wind Power

☐ Promotion & Public Awareness of EVs ☐ Student or General Interest ☐ Electrathon/Bicycle/Scooter/Other

The Electric Auto Association is a non-profit, 501(c)(3) for the promotion of electric vehicles. Your donations are tax deductible and with your membership you will receive the EAA publication, "Current EVents". All information and statistics in this application are for the exclusive use of the EAA and is not sold or given to any other organization or company. Your membership dues include a percentage goes to the EAA Chapter you support for public Electric Vehicle promotion EVents like rallies, shows and EV rides.

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