

Ampaire Flies Second Hybrid-Electric Prototype in Preparation for Flight Trials with Hawai'i's Mokulele Airlines

- Hybrid-electric airplane manufacturer Ampaire moves to next stage in testing electric aviation in airline operating environment
- Ampaire prepares for Hawai'i flight trials in partnership with Mokulele Airlines and accelerator Elemental Excelsior

"We're committed to moving quickly toward real-world applications of electric power."

Kevin Noertker, Ampaire CEO

Camarillo, CA (September 14th, 2020) – Ampaire, a pioneer in electric aviation, flew its second technology demonstrator on Thursday September 10th. The aircraft is a refined version of its Cessna 337 "Electric EEL" hybrid-electric aircraft conversion.

The company refers to the new flight test aircraft as the Hawai'i Bird, as it will be flown by Ampaire and Mokulele Airlines pilots on air routes in Hawai'i later this year in a series of demonstration flights. When the aircraft flies on Maui, it will be the first time an electrically-powered aircraft has flown under an FAA "market survey" experimental aircraft certificate in order to gain real-world flight experience.

"Since flying our first Electric EEL last year, we have made substantial improvements to the power train for efficiency, increased performance, reliability and safety," said Ampaire CEO Kevin Noertker. "This technology is scalable with wide applications for scheduled passenger and cargo services, as well as charter services. Our flights with Mokulele will be an opportunity to test both the aircraft and the infrastructure required to advance electric aviation and transport access in Hawai'i."



Noertker said he expected the company to leverage knowledge from the 337 conversion program into retrofits of larger regional aircraft that could enter service in just a few years.

The Hawai'i Bird is powered by a conventional combustion engine (a 310-horsepower/231 kW Continental IO-550) in the tail, and a 200kW-capable electric motor in the nose, limited in this application to 120 kW. In this second conversion, the aircraft's battery pack has been relocated from inside the cabin to the underside of the fuselage and enclosed in a composite aero-optimized shell. The new configuration frees cabin space for flight test engineers, test equipment, and observers. An aircraft such as Ampaire's Electric EEL can cut direct operating costs and emissions by 40 - 50 percent versus conventional aircraft, playing an essential part in helping Hawai'i reach its goal of 100% renewable energy for electricity by 2045.

In this latest conversion, the Electric Power Unit (EPU) used by the aircraft is designed for improved energy efficiency with less weight. The EPU has better thermal margins thanks to a liquid cooling system versus the previous air-cooling system. The aircraft also has improved cockpit instrumentation and power controls for monitoring outputs from the combustion engine and electric motor. Designed to cruise at 120 knots for 1 hour and 15 minutes, plus a 30-minute reserve, The Hawaii Bird can fly most Mokulele routes round trip before a required recharge.

During its 35 minute first flight, test pilot Justin Gillen climbed to 3,000 feet and made a series of handling and power checks, assessing engine and motor performance, temperatures and other readings, with both powerplants performing as expected. The aircraft will fly for a series of checkouts before being shipped to Hawai'i in October.

Ampaire is working in partnership with Elemental Excelsior, one of the world's leading climate tech accelerators with more than 99 startups within its portfolio, to fund the Mokulele flight trials. With headquarters in Hawai'i, Elemental understands the unique challenges and opportunities around transportation, and the team is leveraging its deep relationships across public, private, and nonprofit sectors to help startups such as Ampaire deploy at the community level.



“Ampaire's hybrid electrically-powered aircraft becoming an integral part of Hawai'i's transportation ecosystem will pave the way towards affordable and sustainable air transit throughout the U.S.,” said Danielle J. Harris, Director of Mobility Innovation of Elemental Excelerator. “The success of this second flight test aircraft is a strong signal that innovative solutions like Ampaire’s electric-powered aircraft play a key role in helping a heavily visited state like Hawai'i reach its ambitious renewable energy goals and meet its unique transit needs.”

Stan Little, Chairman and CEO of Southern Airways, which owns Mokulele, said, “Electric aviation is the future for the commuter airline industry, and through our partnership with Ampaire, we intend to be at the forefront of that innovation. These test flights hold the promise of expanding inter-island service by lowering costs while reducing our environmental footprint—both great benefits to the people of Hawai'i. What we are doing today is what everyone will be doing someday.”

About Ampaire

Ampaire is leading the charge in aircraft electrification. The Los Angeles-based company's mission is to be the world's most trusted developer of practical and compelling electric aircraft. To start, the company is retrofitting existing passenger aircraft to electric power--the quickest and most capital efficient approach to making commercial electric air travel a reality. Ampaire flew the largest hybrid electric aircraft at the time in May 2019 and is exploring larger aircraft conversions with support from NASA and the US Department of Energy's ARPA-E research arm. Ampaire's vision is to make flights more accessible to more people from more airports by providing electric aircraft that are clean, quiet, and affordable. Ampaire is a portfolio company of Elemental Excelerator and Los Angeles Cleantech Incubator, and Techstars, with additional support from Starburst Accelerator and others.

About Elemental Excelerator

Elemental Excelerator advances solutions to climate change and deploys them in the communities that need them the most. Each year, it finds 15-20 companies that best fit its mission and funds each company up to \$1 million to improve systems that impact people's



lives: energy, mobility, water, agriculture, and beyond. To date, it has awarded over \$36 million to 99 companies. For more information, please visit elementalexcelerator.com.

About Southern Airways and Mokulele Airlines

Founded in 2013, Southern Airways has quickly grown to become one of the largest commuter airlines in the United States. Operating a fleet of Cessna Caravans and Grand Caravans, Southern, along with its Hawaiian subsidiary, Mokulele Airlines, serves 37 cities with more than 220 peak-day departures from hubs at Baltimore, Dallas/Ft. Worth, Honolulu, Kahului, Los Angeles, Memphis, Nantucket, Palm Beach, and Pittsburgh. In Hawai'i, Mokulele serves more airports with more flights than any other airline. For further information, go to www.iFlySouthern.com, or visit us on all major social media sites.

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Media

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