



DIAMOND DA42-VI FLYING WITH SUSTAINABLE AVIATION FUEL FOR THE FIRST TIME

News / Manufacturer



Last Monday training aircraft from the European Flight Academy made a few circuits of the aerodrome at Bremen Airport for the first time. The DA42-VI was fully fueled with Sustainable Aviation Fuel. This flight was the result of intensive preparation between LAT, Diamond Aircraft, and Austro Engine. Bremen Airport was deliberately chosen for this flight, as it counts among the first airports in Germany to stock and refuel with SAF provided by World Fuel Services. This SAF is obtained from oil waste, aquatic plants and soil plants in Ghent, Belgium. In a first step, the oils and fats are hydrogenated and then refined in a similar way to fossil fuels. And as a result, SAF produces up to 80 percent fewer CO₂ emissions during its life cycle.

The joint event with representatives of Lufthansa Aviation Training, Diamond Aircraft Industries, Austro Engine, World Fuel Services Europe and Bremen Airport was the kickoff for extensive tests with blended SAF. Unblended neat SAF has been proven to generate up to 80 percent less CO₂ emissions than conventional kerosene. It is the goal of all involved parties to make the training of future Lufthansa Group pilots more sustainable and environmentally friendly, as well. The results of this test series will reveal whether SAF can be used as the sole fuel for the European Flight

Academy fleet in the future.

Eco-consciousness and responsible use of resources has always been at the core of Diamond Aircraft. The history started with efficient and lead-free jet-fuel engines and is going forward with electrification as well as alternative fuels and propulsion systems. Diamond Aircraft and Austro Engine anticipate increasing availability of ASTM D7566 SAF blends as a "drop-in" fuel for General Aviation in the coming years and plans to release the entire fleet for this fuel mix by the end of 2025. Significant market penetration of SAFs is expected by 2030 and availability of 100% pure SAFs without blending for 2050.

Birgit Bubelach, Head of Training Services at Lufthansa Aviation Training, commented : "I am very pleased that we are all standing here together today and are able to witness this test flight of one of our European Flight Academy training aircraft, fueled for the first time with SAF. This has been made possible by our long-standing good partnership with the airport operator as well as the fuel supplier here at Bremen Airport, who, at our request and without hesitation, were available to our training aircraft manufacturer Diamond and its engine manufacturer Austro Engine for the testing of SAF for their engines."

Mathias Offen, Head of Training Services said: "Today's test flight with SAF in one of our training aircraft is an essential building block on the way to sustainable pilot training at our flight schools, which we as the European Flight Academy are embarking on together with our training aircraft manufacturer Diamond."

Robert Kremnitzer, Head of Design Organization at Diamond Aircraft Austria: "SAF is the most immediately available key to reducing CO2 emissions in aviation. The majority of the Diamond fleet can benefit directly from using kerosene piston engines. We are very pleased to be able to demonstrate this as a model example through the cooperation with our partner LAT and Bremen Airport, and we are convinced that we will jointly pave the way here."

Felix Zahradnik, Chief Technology Officer at Austro Engine, stated: "Despite the system-related advantage of a kerosene piston engine in terms of CO2 emissions, any further development towards overall CO2 reduction is of great importance to us. SAFs represent a welcome opportunity to immediately optimize existing fleets with respect to decarbonization. These fuels have by now been sufficiently tested for use in turbines and their increased use saves tons of CO2. Kerosene-fueled piston engines play only a minor role in aviation due to their low volumes globally and their low emissions in general. As a result, it was very difficult for us to procure these "new" fuels for analysis and testing, let alone to participate in their certification in order to address the specific requirements of a compression-ignition piston engine. However, by cooperating with LAT, one of our main customers, and with the great support of Bremen Airport as well as WFS, we were able to procure enough fuel for extensive investigations on engine test benches and test flights in preparation for the certification of SAFs. We look forward to working with our customers to shape the future of aviation."

Commenting on the decision to provision Sustainable Aviation Fuel, Bremen Airport's Managing Director as well as its COO & project manager stated the following:

Dr. Marc Cezanne, Managing Director Bremen Airport: "As part of our climate protection strategy, we decided in 2018 to provide Sustainable Aviation Fuel (SAF) at Bremen Airport. As a result, a tank farm for SAF as well as a reliable supply chain for the procurement of the more environmentally friendly kerosene were established. Since mid-2022, we have been offering 'green kerosene' to all airlines at our Airport. We are very pleased that Lufthansa Aviation Training (LAT) is now flying from Bremen with significantly reduced emissions."

Christian Knuschke, Chief Operating Officer & project manager, Bremen Airport: "The planning and implementation of the SAF project was ambitious, but successful. We are currently able to store around 50 cubic meters of SAF at Bremen Airport, but in the long run we aim at further developing our capacity in line with the market. Already at this point, this makes Bremen Airport a pioneer on the road to green aviation."

Matt Whitton, Vice President, World Fuel Services: "Collaboration is key in accelerating SAF adoption, and we commend the dedication of all involved parties in making this project a success. The group's pioneering effort in SAF use aligns with our mission to expand SAF access and broaden the understanding that this is a drop-in fuel ready for use in any aviation application. World Fuel Services continues to work daily with producers and end users to advance SAF accessibility and promote its versatility for a greener aviation industry."



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