ALL NIPPON AIRWAYS INTRODUCES THEIR FIRST AEROSHARK AIRCRAFT

News / Airlines, Maintenance / Trainings

All Nippon Airways has welcomed another marine-life-inspired aircraft to its fleet: Its first Boeing 777 equipped with AeroSHARK. This revolutionary surface technology is inspired by shark skin, reduces drag, and enhances fuel efficiency. ANA is the first individual airline to operate both passenger and freighter variants of the Boeing 777 with this innovation. The first modified Boeing 777F (JA771F) began scheduled cargo flights, with plans to extend the AeroSHARK technology to a passenger aircraft (JA796A) by next spring, furthering ANA's commitment to investment in fuel efficient technologies that reduce emissions.

AeroSHARK, a joint development by Lufthansa Technik and BASF, is a functional surface film inspired by the drag-reducing structure of sharkskin. The film features ribs around 50 micrometers in size, called riblets. Closely guided by Lufthansa Technik, ANA's MRO partner has recently applied several hundreds of square meters of these riblet films to the fuselage of JA771F, which re-entered commercial service today with the first AeroSHARK-optimized flight from Tokyo-Narita to Chicago-O'Hare.

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Although the riblet modification is almost invisible, it is expected to deliver significant fuel and emissions savings. The contracted Boeing 777F and 777-300ER aircraft will have nearly the entire fuselage covered with the sharkskin-inspired film, resulting in estimated annual savings of approximately 250 metric tons of fuel and 800 metric tons of CO2 for each aircraft.

Kohei Tsuji, member of the board, executive vice president, engineering and maintenance center at ANA commented: “The introduction of AeroSHARK technology on our Boeing 777 aircraft marks a significant milestone in our sustainability strategy, in support of our broader goal of reducing carbon emissions across our fleet. We are proud to be the first airline in the world to implement this innovative technology to both passenger and freighter version of the Boeing 777, reinforcing our dedication to delivering excellence and reducing our carbon footprint.”

As ANA begins operations with two Boeing 777 equipped with riblet films, the airline will validate the effectiveness of this technology in ANA’s daily operation, with plans to expand its use across other aircraft of the same type. This initiative is part of the ANA Group’s medium- to long-term environmental strategy, which includes the broader “ANA Future Promise” initiative aimed at realizing a sustainable society and promoting ESG management.

Dennis Kohr, senior vice president corporate sales Asia Pacific at Lufthansa Technik said: “Drawing inspiration from nature is deeply rooted in Japanese arts and culture. Therefore, what airline could be a better fit for our nature-inspired AeroSHARK than the world-famous ‘Inspiration of Japan’? We are delighted to extend our long-lasting and fruitful cooperation with All Nippon Airways onto a proven solution to reduce their carbon footprint. I am confident that AeroSHARK will support ANA in becoming an ever-greener ‘Inspiration of Japan’.”

Lufthansa Technik currently holds Supplemental Type Certificates (STCs) for the AeroSHARK modification of various types of Boeing 777, which is now being adopted by various airlines across the globe. Approximately 20 long-haul aircraft are already operating with the technology in worldwide service, and this number is growing steadily.

BASF and Lufthansa Technik moreover remain committed to further developing AeroSHARK to help more airlines achieve their sustainability goals. Current efforts include expanding approvals to additional aircraft types and covering larger surface areas. Initial model calculations suggest that sharkskin technology could potentially reduce CO2emissions by up to three percent in its maximum expansion stage.

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