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US 'Scramjet' Breaks Speed Record

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A U.S. space agency jet has broken the air speed record for the second time this year. The unpowered X-43A aircraft achieved nearly 10 times the speed of sound over the Pacific Ocean.

Fifty-seven years after U.S. pilot Chuck Yeager first broke the sound barrier, the unmanned X-43A reached almost 10 times that speed, about 12,000 kilometers per hour, with an experimental air breathing engine.

It flew that fast for 10 seconds at 33 kilometers altitude after separating from a small rocket dropped from the wing of a bomber.

The U.S. space agency hypersonic research director Vince Rausch notes it is the X-43A's second speed record this year. "Once again, we made aviation history," he said. "We did that in March when we went seven times the speed of sound, and now we've done it right around 10 times the speed of sound. So we are absolutely elated."

Unlike standard rockets, which store their own oxygen and hydrogen as fuel, the X-43A scramjet engine uses atmospheric oxygen saving precious weight.

It could be a forerunner of faster military jets or lighter spacecraft that can carry more cargo in place of fuel.

"It's a first step forward, but the applications are potentially many," said Mr. Rausch. "The Department of Defense is looking at missiles, long-range aircraft, things like that. Obviously why we in NASA are looking at it is to enhance our capability for access to space. Using air breathing propulsion for a first stage of a

two-stage system could give us a more flexible, reliable, and safer and cheaper launch system in the long run."

To prepare for Tuesday's test, engineers reinforced the X-43A's nose and the leading edges of its wings and tail with extra carbon thermal coating, like that used on space shuttles. The temperature at these points was expected to reach 2,000 degrees Celsius, about 600 degrees hotter than the March test flight.

This was the last of three X-43A scramjet tests. The future of the technology is uncertain, but project manager Joel Sitz says its fate is now in the hands of government and industry officials. "We've given industry and government, I think, a lot of confidence to go forward with hypersonic air breathing propulsion. I think that technology definitely has a future and we have definitely opened that door," he said.