

# Mysterious robotic plane hits 500 days in space; what's it doing?

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An artists' conception of the X-37B in Earth orbit. Credit: U.S. Air Force.

A robotic space plane is speeding in low Earth orbit at this very moment. Some say it's a weapon; others, a data-gathering mission. There's one fact most agree on as the plane hits 500 days in space: Its real purpose is a mystery.

The Boeing-built X-37B Orbital Space Vehicle, constructed in California, is one-fourth the size of the Endeavour Space Shuttle.

The Air Force craft, purely a test vehicle that will never reach production, in part aims to explore reusable space-vehicle technologies. That means the robotic vehicle can land, but no one will say when.

What could it be?

"That question implies that it has a single, rational mission. And I don't think it does," said John Pike, director of GlobalSecurity.org. "I think it was basically just intended to bewilder the Chinese."

Others speculate the craft could be some sort of intelligence-gathering tool. The Secure World Foundation, a nonprofit based in Broomfield, Colo., published a 2010 report on the craft. It speculated the space plane's most likely purpose was for intelligence gathering and said the vessel had a low probability of other uses, such as satellite repair.

Whatever its real purpose, the X-37B has very real capabilities. It travels low in orbit, staying around 110 to 500 miles above the Earth at a cruising speed of about 17,500 mph. It's equipped with special heat-shield tiles for re-entry, which are billed by Boeing as tougher than Endeavour's.

And this isn't the first time the craft has launched, either.

On April 22, 2010, the X-37B rode a rocket into the sky before landing Dec. 3. It took off again Dec. 11, 2012, and the plane has now been circling the planet for 500 days.

The Air Force launched a second craft of the same model May 5, 2011. It landed at Vandenberg Air Force Base on June 16, 2012.

To Pike, the craft's purpose is all about keeping the United States the most technologically advanced nation in the world.

"There are two things we can do to keep it that way. One, do things that keep us ahead of them (technologically), and another way is to do things that bewilder them and cause them to waste money," Pike said. "The program has been around for a long time and at one time or another has gotten funding from just about everyone in Washington."

But the government's treatment of the project poses questions. Though it's advertised as a secret project, Boeing releases pictures and more than two pages of details on the X-37B. In contrast, the secret, super-fast Lockheed SR-71 Blackbird was not declassified until decades after it had been used in the Vietnam War.

Steven Aftergood, a senior research analyst at the Federation of American Scientists and an expert on secrecy, said the publicity of the craft raises many questions and provides few answers.

"It's a puzzle," he said. "Generally speaking, there are a couple of ways that the secrecy of the program could be justified: if disclosure enabled adversaries to defeat the program, or to diminish its effectiveness, or if it made it possible for others to replicate the technology."

It's not clear when that puzzle will be solved or when the true purpose of the somewhat secret project will be unveiled.

"It's a wilderness of mirrors," Pike said.

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