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Osprey V-22s head for Japan despite 'design flaw' fears

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Shortcomings in the helicopter function of the Bell-Boeing V-22 Osprey tilt-rotor aircraft make it "precarious", a rotorcraft expert has warned.

"As an airplane it's quite safe, but its helicopter role is always very precarious," Dr Arthur Rivolo told *IHS Jane's* in early July. "The shortcomings of the V-22 have to do with the design of the aircraft."



Rivolo was speaking as the US Department of Defense pressed ahead with plans to base 12 MV-22s at Marine Corps Air Station Futenma in Okinawa prefecture in Japan despite local opposition.

The Ospreys are en route to Marine Corps Iwakuni Air Station in Yamaguchi prefecture, where they will be reassembled before being moved to Okinawa in August at the earliest to replace 12 Boeing Vertol CH-46 helicopters.

But two accidents this year involving Ospreys have mobilised opposition to their deployment on the southern island. In April, two marines were killed in an MV-22 crash in Morocco that occurred while the pilot was moving the rotors from an upright position to forward; in June, a US Air Force (USAF) CV-22 Osprey crashed in Florida, injuring five crew.

"The Morocco accident is the classic of V-22," said Rivolo, who served as principal V-22 analyst at the Institute for Defense Analyses (IDA), a government-funded think-tank, from June 1992 to March 2009. "The pilot has a button that moves the nacelles. If you move them a little bit too far forward, you crash. The pilot can crash the aircraft by touching the switch. This is unique to the V-22."

The Pentagon has emphasised that the MV-22 Osprey has an excellent safety record, and Japanese Defence Minister Satoshi Morimoto said on 26 June that Tokyo would not object to its deployment. "The US military continues to operate the aircraft despite those incidents," he said. "This suggests there were no systemic problems but there were some operational problems."

Rivolo testified before the US House of Representatives in June 2009 on the inability of the V-22 to safely auto-rotate, reiterating a confidential 2003 Pentagon report in which he wrote that the decision to deploy the V-22 without proven auto-rotation capability was "unconscionable".

"The aircraft is unable to auto-rotate," he told *IHS Jane's*. "If both engines fail, that would be a very serious problem. The US military has decided that a very small risk is worth the utility of the aircraft. In a rare occurrence of both engines' failure, we will lose some people. But the military thought that's acceptable."

An active USAF pilot told *IHS Jane's* that, although the Osprey had had a troubled development, "it's important to remember that the MV-22 has had a very good safety record over the past 10 years.

"There has been a lot of focus by the Japanese media on the recent crashes. However, before the April crash, it had been 12 years since an MV-22 had a class A mishap. Like other rotary and fixed-wing aircraft, if the V-22 is flown in accordance with established regulations and employed by trained pilots who adjust for situations using their best judgement, the V-22 is a safe aircraft."

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