BELL TO TEST NEW BLADES FOR V-22 OSPREY

News / Manufacturer

Bell Helicopter will, in 2017, fly a V-22 tiltrotor equipped with new prop rotor blades designed to reduce manufacturing costs on the type.

The modification is the latest in a series of trials under the manufacturer's Advanced Technology Tiltrotor (ATTR) effort; a risk-reduction exercise for the Osprey's US Marine Corps and US Air Force customers.

"It is a fairly substantial change to the airframe," says Jason Hurst, senior manager of global military business at Bell, designed to address the "productability" of the blade. "They perform fairly well now, but are very labour intensive," he notes.

The undisclosed changes to the manufacturing process have been derived from ongoing development work on the next-generation V-280 he said, at IQPC's International Military Helicopter conference in London on 18 January.

Test flights of the modified component will take place in 2017-2018 from Bell's Arlington, Texas facility, using a Block A V-22 leased from the USMC's VMM-204 test squadron.

Previous enhancements under ATTR to the V-22 – which is jointly produced with Boeing – have

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included the addition of improved inlet barrier filters to the tiltrotor's Rolls-Royce AE 1107C powerplants, for better performance in dusty or saltwater environments. Flight testing of an enhanced infrared suppressor is currently around 50% complete, says Hurst.

Carriage tests of the Pratt & Whitney F135 engine that powers the Lockheed Martin F-35 were also carried out to ensure the V-22 could perform the carrier onboard delivery mission for the US Navy, which has 48 examples on order.

In addition, Bell has conducted firing tests of the BAE Systems APKWS guided rocket and Raytheon Griffin B missile from the Osprey, with an L-3 Wescam MX-15 turret used for target designation.

Other options include the possible integration of either a fixed or turreted nose-mounted gun, however no decision has been made by either the USAF or USMC to add the capability to the tiltrotor.

"We know they want [armament], but we just don't know what," says Hurst.

Evaluation of the V-22's potential in the tanker role, using a hose-and-drogue system, has also been carried out previously. However, no contacts were made during the trials using a USMC Boeing F/A-18. The work is to support potential in-flight refuelling of the F-35B.

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