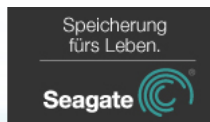




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The New Spy Drone Marines Can Fling Into the Air

The RQ-21A Blackjack can take off and land from a small area on the battlefield, giving soldiers new flexibility for gathering reconnaissance.

By Eric Tegler



May 14, 2014 11:43 AM

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The newest Navy Marine Corps UAV can take off and land from a small area on the battlefield, where its customizable payload of sensors will give Marines the best real-time tactical picture they've ever had.

The RQ-21A Blackjack has a 16-foot wingspan and can take off and land in a 40- by 40-foot area. Built by Insitu, the Blackjack can carry larger, more diverse intelligence, surveillance, and reconnaissance (ISR) payloads than its predecessors. The aircraft deployed to Afghanistan earlier this month. There, dedicated UAV squadron detachments will fly it from forward operating bases close to the battlefield.

"The majority of the sites we operate in do not have runways. That's why the RQ-21 is so well suited to these environments," says Col. Jim Rector, Navy and Marine Corps Small Tactical Unmanned Aircraft Systems program manager.

Using a line-of-sight, the RQ-21A has a range of about 50 nautical miles from the launch point. However, operators can extend that range by using remote ground control stations (GCS) and,

eventually, satellite technology. The UAV can stay aloft for up to 16 hours using a 100-cc two-stroke heavy-fuel reciprocating engine. Regimental commanders receive data from the drone's sensors in real time.

To launch and recover the drone, Marines would use the MKIV catapult launcher and MK2 Skyhook retriever. "Those two components allow us to have true expeditionary capability and to operate in littoral areas from amphibious Navy ships," Rector says.

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The launcher uses a pneumatic system to fling the Blackjack airborne the way an aircraft carrier flings jets. Prior to launch, the squadron crew brings the 135-pound RQ-21A up to full power and sets the launcher at the desired angle of attack. The UAV gets airborne within a 40-foot area and quickly clears obstacles in its launch flight path.

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Recovering the Blackjack is a bit more dramatic. In anticipation of the UAV's return, Marines extend the Skyhook's articulated telescoping mast. The Blackjack flies back to the launch/recovery area via commands through the GCS. Then the Marines snag it.

"Basically, what the Blackjack does is fly its wing right into a bungee-style line hanging from the Skyhook," Rector says. "When it hits the line, the wing hooks onto it and locks. It slides down the line and is [suspended] by the hook. People would think the [UAV] would just spin around, but it doesn't. Marines run out to the Skyhook and lower it to the ground and they're off and running."

Two Marine CH-53E Sea Stallion helicopters can carry the entire setup. Once the kit is on terra firms, Humvees can tow the equipment to the launch site. Aside from the trailers, all RQ-21A system components can be handled by Marines on foot. Two Marines can place the aircraft on the launcher or retrieve it from the Skyhook. Each Marine squadron detachment would travel with five RQ-21 UAVs, two GCSs, and the launch and recovery equipment.

The RQ-21A will make its first shipboard deployments this year and the Marine Corps plans to acquire 32 Blackjacks for its three UAV squadrons. The Navy will buy another 25 systems.

"We're seeing sensor capability that, in the past, you saw on strategic-level UAVs," Rector says. "Now we're able to provide that sensing capability to warfighters at the operational level."

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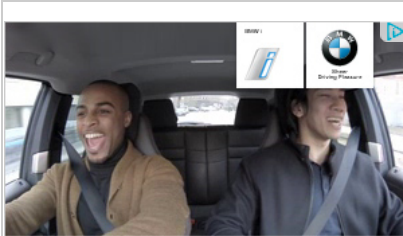
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