

## Soldier Deploys to Iraq to Help Field Laser Defense System for Chinook Helicopters

By: Kari Hawkins, USAG Redstone

Laser technology is taking Chief Warrant Officer Cary Nadeau to Iraq for his fourth deployment in support of overseas contingency operations.

It's a deployment that will give Nadeau the opportunity to show the Army's Chinook pilots the benefits of new technology tested by the Redstone Test Center.

Chinook helicopters flown by pilots of the 25th Combat Aviation Brigade, 25th Infantry Division, are the first to be equipped with the laser-based countermeasure system designed to shoot laser energy at incoming infrared missiles that will redirect the missiles away from the aircraft.

"The laser-based countermeasure system works with the common missile warning system on the aircraft to detect infrared missiles coming in," Nadeau said.

"It looks like two R2-D2 heads on the side of the aircraft. They provide an added layer of protection against infrared missiles by using laser energy to spoof them or direct them in a different direction. The lasers work automatically to confuse the missile. It's all about increasing the survivability of the aircraft."

Nadeau, 38, is one of the Army's 30 experimental test pilots. Because of their limited number, experimental test pilots are only assigned to brigades fielding new equipment being used for the first time on major systems or airframes. Nadeau has flown test flights with the laser-based countermeasure system that he will support in Iraq, and possibly Afghanistan, where he could be transferred about midway through the deployment to support another unit of Chinooks being equipped with the system.

"Eventually, all of the Army's Chinooks will have this system," he said.

Nadeau recently transferred to Redstone Arsenal as part of the Base Realignment and Closure Commission merger of Fort Rucker's Aviation Technical Test Center with the Redstone Technical Test Center. He is assigned to the Redstone Test Center to perform test flights on new technology for Chinook helicopters.

During his six-month deployment, Nadeau's mission is "first of all, to be a Soldier. Second, it is to embed with the aviation brigade to impart my experience in flight testing. My job is to dispel myths and rumors about the new equipment, to train the Soldiers on how the technology works and to bring information back to Redstone



Chief Warrant Officer Cary Nadeau is involved with helicopter testing in his assignment with the Redstone Test Center. He will be leaving soon for a six-month deployment in Iraq, where he will provide technical and liaison support to the 25th Combat Aviation Brigade for the Chinook's new laser-based countermeasure system and for the brigade's entire fleet of aircraft. (Photo Credit: Kari Hawkins, USAG Redstone)

Test Center on how well the system is operating in real use situations. I've seen this system flown. I've seen it work against real live missiles. I can impart that confidence to the pilots of the 25th."

It's critical, when flying a Chinook, that the aircraft have the "capability of protecting itself from outside forces," Nadeau said. Because of the Geneva Convention, MEDEVAC Chinooks are not allowed to shoot back when fired upon. For this reason, they rely heavily on armed escorts and on defense systems that provide additional layers of protection for the aircraft.

Nadeau will serve as a liaison between the brigade and the Redstone Test Center.

"We're shifting this system from testing to now flying," he said. "We will gain more experience from the pilots in Iraq that we can use productively in the test community. This keeps us relevant."

Nadeau's role is an offshoot of a program started after 9/11 when the Army Test and Evaluation Command and ATTC used Forward Operational Assessment Teams in theater in support of new technology.

"ATTC realized then the importance to staying relevant to the fight," Nadeau said. "We needed to look at new systems in theater and help in the deployment of new systems. Since then, things have evolved where brigade commanders are requesting experimental test pilots for their brigades. We offer a very good liaison capability between the brigade and program managers, airworthiness managers and test managers. We can get commanders things - information, technology and equipment - that they can use in their brigades while in theater."

Nadeau first enlisted in the Air Force and served as a firefighter for seven years before joining the Army's warrant officer program 12 years ago. He first deployed to Kosovo in 1999-2000, where he flew Black Hawk helicopters. During his first deployment to Iraq in 2003, Nadeau served with the 507th Medical Co. assigned to the Army's 3rd Infantry Division, where he piloted MEDEVAC Chinooks.

"It was during the initial invasion, the main push into Baghdad," he recalled. "It was real quick. Most of our MEDEVAC missions involved Soldiers who happened to get injured by a mine in a field.

"During my second deployment to Iraq I flew a MEDEVAC Chinook for the 1st Marine Division. I flew a lot during that year in western Iraq in the areas of Fallujah and Ramadi. The enemy had gotten smarter and there were a lot of IEDs (improvised explosive devices). Our bus picked up a lot of Marines."

Nadeau left Oct. 17 for Fort Benning, Ga., in preparation for his third deployment to Iraq on Oct. 24. Before leaving Redstone, he met with Maj. Gen. Jim Myles, commander of the Aviation and Missile Command, and aircraft program managers to establish a rapport that will serve him well in his liaison role with the 25th.

"The message I received from General Myles and all the program managers is that they are there to support the war fighter 24/7. The main focus is to support the war fighter - that's the common theme," he said.

Nadeau views his deployment as a way to support war fighters and to gain a better understanding of theater requirements.

"I think staying relevant is the big thing. We need to keep our testers relevant to the current fight so that we keep our credibility with the Soldiers," he said.

"It's sort of a role reversal. To stay credible with Soldiers and Soldier pilots, I'm going over there to eat dirt, walk my boots in the sand, fly missions and be a Soldier with them."

Although he will fly Chinooks and primarily support technical issues involving the Chinook, Nadeau will also be able to support technical questions involving the Black Hawk, Apache and Kiowa helicopters flown by the unit.

"Army pilots typically fly one airframe," he said. "But, as an experimental test pilot, those divisions go away, the lines dissolve. I will be used where my expertise is, but I can also work outside my expertise to provide a fresh view of any of the airframes flown by the brigade."

For example, if there is a technical issue involving the brigade's Apache helicopter, Nadeau has the expertise to get involved, formulate the issue and communicate it back to program managers for resolution.

Being an experimental test pilot has allowed Nadeau to "get more involved in how the Army acquires new aircraft. I fly a plethora of different aircraft and test lots of systems."

During experimental testing, pilots look for flaws in new systems. He recently performed several test flights for a new infrared exhaust suppressor that reduces the Chinook's heat signature so that it is more difficult to detect by heat-seeking missiles. During those tests, Nadeau discovered flaws in the infrared exhaust suppressor system that resulted in a system redesign.

"Experimental test pilots are sort of the Consumer Reports for Army aviators," he said. "We don't say buy it or don't buy it. We tell the good things, the bad things and the safety things about an aircraft or its systems and subsystems. We answer questions like 'Is it safe?' and 'Does it function the way it is supposed to?'"

Once his deployment is complete, Nadeau will return to Redstone and resume flight testing for the Redstone Test Center.

"The projects we test are always changing," he said. "I will just fall right back into the test schedule."

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Source: <http://www.army.mil/-news/2009/10/23/29243-soldier-deploys-to-iraq-to-help-field-laser-defense-system-for-chinook-helicopters/?ref=news-science-title1>