CorrDefense DoD News about Preserving Military Assets

Volume 1, Number 1
October 2005
Project News

Clear Water Rinse System Improves Aircrew Safety and Lowers DoD Maintenance Costs

By Cynthia Greenwood

Because Army pilots fly in harsh sea and desert environments, their helicopters take a beating from saltwater, sand, dust, and dirt. While the need for washing the aircraft varies by platform and operational conditions, an Army rotor wing helicopter is required to get a good scrubbing with soap and water about every 30 days. “The process can take four people three hours to finish,” said Steve Carr, Corrosion Program Manager at Army Aviation and Missile Command (AMCOM), “although the exact man-hour requirement varies with the type of aircraft and operational environment.”

But a good bath once a month isn’t enough to prevent salt and other contaminants from corroding a rotor wing aircraft, which needs constant maintenance to stay in service. So the Army has added rinsing to supplement periodic washing. This fall, it set up a Clear Water Rinse System at Wheeler Army Airfield in Oahu, Hawaii, and Hunter Army Airfield in Savannah, Georgia. If each helicopter gets rinsed between wash cycles, the potential for corrosion is greatly reduced, Carr said.

The CH-47 Chinook Cargo Helicopter, before and after rinsing.

“There is minimum time and no labor required to use the system,” said Carr. “Sometimes we can’t wash often enough, and this is only a rinse, but it will supplement washing.”

Designed for rinsing the Army’s helicopter fleet–from the small OH-58D Kiowa to the larger C/MH-47 Chinook–the new Clear Water Rinse System can also rid small fixed-wing aircraft of corrosive contaminants. To start the rinse, the pilot taxis the helicopter into position onto a rinse pad with nozzles and a system that recycles water. Then the automated system sprays the aircraft with filtered, recycled water, removing salt and pollution from the exterior.

This fall, the Army entered into a one-year lease agreement with Astro Machine to set up and operate a Clear Water Rinse System for the 25th Aviation brigade at Wheeler Army Air Field and the 3rd Aviation brigade at Hunter Army Air Field. The two systems will also benefit transit helicopters owned by the U.S. National Guard and U.S. Coast Guard.

Recognizing its potential benefit for all U.S. armed services, AMCOM officials have worked with Army Materiel Command and the Office of the Secretary of Defense Corrosion Policy and Oversight Office to demonstrate the Clear Water Rinse System. In fiscal year 2005 the Army paid $1.2 million to lease, manage, and measure the rinse system for one year at Wheeler Airfield. The OSD Corrosion office, in turn, provided $1.2 million for a similar initiative at Hunter Airfield. The Army will renew both leases until funds are available to purchase new systems for approximately $3.3 million in fiscal year 2008, when funding is available.

The Army needs the rinse technology at Fort Hood, Fort Bragg, Fort Campbell, and other locations. The Hawaii National Guard, Coast Guard, and the 160th Special Operation Task Force are also interested in using it. The rinse system can potentially benefit a broad range of Department of Defense (DoD) aircraft, Carr said.

The Joint Committee for Aging Aircraft has adopted the Clear Water Rinse System as a maintenance standard for all DoD helicopters. Its benefits include improved aircrew safety, a reduction in corrosion maintenance and support costs, and improved combat readiness, Carr said.