

At the Boeing facility in Philadelphia, Ken Drummond, Flight Test crew chief, inspects a CH-47F Chinook helicopter. Under a contract awarded last summer, Boeing will provide the U.S. Army with more than 190 Chinooks over five years.

JEFF CORWIN



More brawn and brain

CH-47F team proud of helicopter's capabilities—and pact for more aircraft

By Jeff Barnett

Last year was full of successes for Boeing Rotorcraft Systems, including the Block III Apache helicopter's first flight, the MV-22 tiltrotor's high grades in combat deployments, and the A-160 unmanned aerial vehicle's endurance demonstration.

But one of the most notable achievements has been the continued rise of the CH-47F Chinook, considered the workhorse of U.S. Army aviation. Since 2001, the Chinook team has worked to significantly modernize the aircraft with new mission equipment, enhanced capabilities and improved safety features. As a result, the Army has equipped and trained three complete units, deployed the first CH-47F unit to Iraq in support of Operation Iraqi Freedom—and, in a decision that validates the hard work of Boeing employees on the Chinook team, agreed to a multiyear contract to stabilize and reduce costs for the program.

"We knew from the outset that we faced some rigorous challenges," said Tommy Filler, CH-47F program manager. "We needed to give our warfighters the best helicopter we could and make sure the contract and schedule gave them what they needed on time and within their budget."

To help focus the team's efforts, Filler and his F-model team adopted one of the Army program manager's own slogans, "Soldiers First."

"We repeated this mantra early and often," Filler said. "We constantly focused on the needs of soldiers and their mission."

Their efforts resulted in a \$4.3 billion, five-year contract awarded late last summer that provides for 181 CH-47F Chinooks plus 10 additional Chinooks under fiscal year 2008 supplemental funding. It also includes options for an additional 24 aircraft.

BATTLEFIELD IMPACT

The contract is "a phenomenal achievement," said Tammie Gregg, proposal manager and Contracts and Pricing representative. But the aircraft itself also represents a major milestone in the Chinook's history. Its enhanced safety and situational awareness, on top of its improved performance, mean the CH-47F has a major battlefield impact. All in all, it's a stronger, faster helicopter.

The CH-47F is built around a newly designed, improved monolithic-machined airframe. It's powered by twin Honeywell engines, each generating 4,733 horsepower. These engines and tandem rotor design allow the Chinook to operate at speeds of more than 175 mph (280 kilometers per hour) and give it the ability to transport more than 21,000 pounds (9,525 kilograms) of material and soldiers.

Along with more brawn, the F-model features new brains. A new Rockwell Collins Common Avionics Architecture System (CAAS) and a BAE-designed Digital Advanced Flight Control System give the crew vastly improved situational awareness and substantially better flight-control capabilities. That translates into improved performance and safety in the harshest operating envi-

ronments. CAAS also incorporates an advanced digital map display and a data transfer system to allow for mission management and mission changes in flight.

Fitted with a new Extended Range Fuel System, the Chinook can operate at ranges of over 400 nautical miles (460 statute miles or 740 kilometers) and offers a combination of lift and "legs" for nearly any mission.

The CH-47F also offers the warfighter improved survivability thanks to the Common Missile Warning and Improved Countermeasure Dispenser systems. These systems work in tandem to help protect aircraft and crew from anti-aircraft missiles by detecting incoming warheads and dispensing a mix of chaff and flares to help avoid them.

FIELD-PROVEN

Although the Chinook team is extremely proud of its new contract, teammates see their biggest success as being the capabilities they provide to warfighters.

"Successful deployments are the final grade in customer satisfaction," said Filler. "The proof of the team's hard work is in the field, where the soldiers are depending on the Chinook everyday to get the job done and get home in one piece."

The Army appears to agree. Currently, two Army units are equipped with F-model Chinooks in combat zones, and a third has completed training and will be entering combat soon.

"The CH-47F is a surprising piece of equipment, a quantum leap forward," said Chief Warrant Officer 4 Neal Lorenson, Bravo Company, 7th Battalion, 101st Aviation Regiment. "The engine instruments, systems displays, the low-speed hover regimes ... we'll be able to safely execute missions that were probably more dangerous than we would have liked to entertain in the past. It's a marvelous aircraft." ■

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Know your CH-47F

Here's a short list of some of the many things the CH-47F Chinook can do—and what it's already done in service.

- The only military rotorcraft capable of operations above 10,000 feet (3,050 meters)
- Capable of detecting incoming missiles and deploying countermeasures
- Flies at more than 175 mph (280 kilometers per hour) and transports more than 21,000 pounds (9,525 kilograms)
- Has a mission radius of more than 400 nautical miles (460 statute miles or 740 kilometers)
- Deployed to Iraq, Afghanistan and Liberia
- Performs air assault, combat re-supply, humanitarian relief, transport, and search and rescue missions