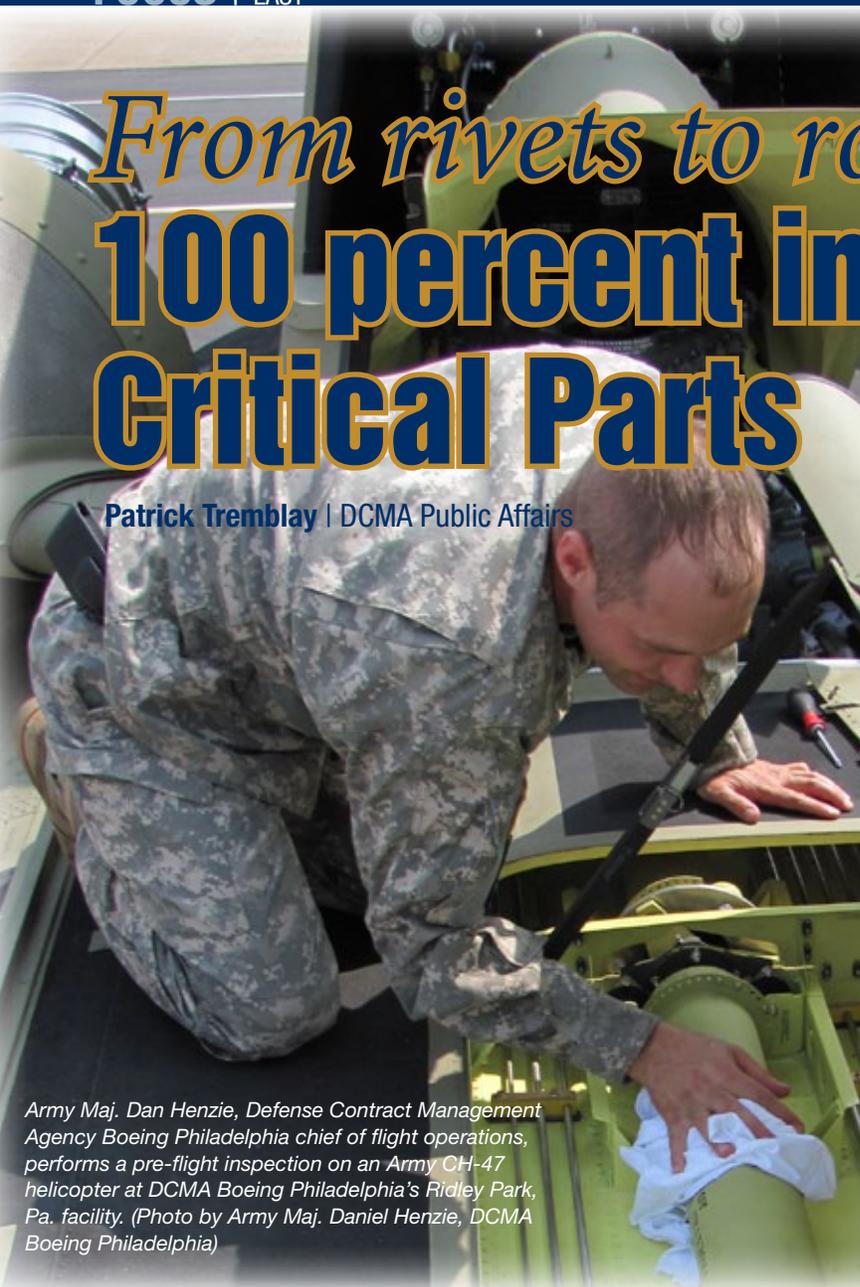


# From rivets to rotors: 100 percent inspecting of Critical Parts

Patrick Tremblay | DCMA Public Affairs



Army Maj. Dan Henzie, Defense Contract Management Agency Boeing Philadelphia chief of flight operations, performs a pre-flight inspection on an Army CH-47 helicopter at DCMA Boeing Philadelphia's Ridley Park, Pa. facility. (Photo by Army Maj. Daniel Henzie, DCMA Boeing Philadelphia)

Army Sgt. 1st Class Kevin Carlson, CH-47F flight engineer and Defense Contract Management Agency government ground representative, performs a pre-flight inspection on an Army CH-47 helicopter at DCMA Boeing Philadelphia's Ridley Park, Pa., facility. Each aircraft will be flown by active duty flight crews assigned to DCMA prior to final delivery to the customer. (Photo by Army Maj. Daniel Henzie, DCMA Boeing Philadelphia)

**N**ear Philadelphia, Defense Contract Management Agency personnel play a critical role in two of the most distinct military aircraft in the U.S. inventory: the Boeing CH-47 helicopter and the Bell-Boeing V-22 tilt-rotor aircraft.

More than 100 DCMA employees work at the sprawling Boeing campus in Ridley Park, Pa., on an industrial complex originally built to produce railroad locomotives. Since the 1960s the location has been involved with aircraft production. In addition, the DCMA contract management office oversees several personnel at Dover Air Force Base, Del., executing a quality delegation for

modification work on Air Force C-5 Galaxy and C-17 Globemaster jets.

Rosemary Ormsby, DCMA Boeing Philadelphia deputy commander, said that understanding the corporate culture is one of the unique challenges of working with a large contractor. "In order to do our job right, there has to be a mutual respect," Ormsby said. "We have to be able to navigate Boeing, but at the same time keep them at arm's length so we can hold them accountable for their obligations to the customer."

Ormsby credited the office's seasoned professional workforce with deftly

handling DCMA's vital role in the production process. She also mentioned two programs — Keystone and the Student Career Experience Program (SCEP) — as successful in providing a "hands-on" opportunity to develop the next generation of acquisition professionals.

Carlos Hatchett, DCMA H-47 engineering team leader, supervises interns who work at the facility and said he is impressed with Keystone and SCEP personnel. "They make great additions to DCMA."

On Hatchett's team is Jeff McCampbell, a third-year Keystone out of the University

of Pittsburgh. McCampbell enjoys the broad scope of work in which he's been involved. "It's an opportunity to see an aircraft being built from design to delivery," he said, "and to experience it from all aspects."

### Osprey

DCMA's role in V-22 Osprey production spans the full gamut from contracting to delivery. The V-22 is a unique aircraft, produced jointly by Boeing and Bell Helicopters. The engines rotate so it takes off and lands similar to a helicopter, but once aloft flies like an airplane. DCMA quality assurance personnel inspect the aircraft at set points along the production line, no small task when Boeing is completing a V-22 every six days.

"We inspect 100 percent of critical components," said Dan Evans, a DCMA quality assurance group chief with more than 29 years of government service. "This includes things like flight controls, how fuselage pieces are spliced together and other components and processes." To

ensure standards are met, quality assurance personnel monitor the production and testing of other components, such as paint and riveting.

Evans has spent the past 22 years working with DCMA, and is quick to remark on how effectively the DCMA Boeing Philadelphia team works. "It's DCMA employees, but it is really like a large family," Evans said.

Two variants of the Osprey are produced at the Boeing plant – the MV-22 for the Marine Corps and the CV-22 for the Air Force. After final inspections are performed in Pennsylvania, the aircraft have one more stop before being delivered to the customer. The Osprey are sent to Amarillo, Tex., where the DCMA Bell Helicopter team inspects the mating of the wings to the fuselage and conducts flight testing.

### Chinook

For the CH-47, everything from production to test flights is done on-site at Ridley Park. Commonly called the



*Karl Meixner, Defense Contract Management Agency quality assurance specialist, performs a "safety of flight" inspection on the rear section of an CH-47 helicopter at Boeing's Ridley Park, Pa., plant. (Photo by Patrick Tremblay, DCMA Public Affairs)*

Chinook, the CH-47 is the tandem-rotor, medium/heavy-lift helicopter used by the Army. There have been more than 1,000 produced since being developed by Boeing Vertol. It is the fastest helicopter in the Army's inventory. In September 2011, Boeing and defense leaders celebrated the 50th anniversary of the Chinook's first flight, making it the longest continuously operating program in Boeing's history.

The Chinook is produced in an older part of the Boeing campus, separate from the Osprey line. Recent major renovations have increased helicopter production capability, reinforcing the need for DCMA and Boeing to have an effective working relationship. Pat Donnelly, Boeing's CH-47 program manager, said the ultimate goal of both organizations is the same – to get the best aircraft to the Army customer.

"Increasing the rate of production has required us to create initiatives to lean-out some processes," Donnelly said. "It's put some strain on both Boeing and DCMA, but through-out there has been great coordination between the two teams."

One of the central roles in the relationship with Boeing is held by Al Doreste, DCMA's Chinook program integrator. Doreste moves quickly among his program support team, ensuring that industrial specialists, engineers and quality assurance personnel are working together. Doreste is equally at home talking with Boeing production leads, acting as a liaison for the various functions of his team.



*Dan Grimes and John Raniolo, Defense Contract Management Agency quality assurance specialists, inspect the top of a V-22 Osprey fuselage at Boeing's Ridley Park, Pa., plant. Once the inspection is complete, the top of the aircraft will not be worked on again until the wings are mated to it in Amarillo, Tex. Together, Grimes and Raniolo have more than 57 years of experience working with the federal government – more than 30 of that with DCMA. (Photo by Patrick Tremblay, DCMA Public Affairs)*

“We have to have a terrific working relationship with the contractor,” said Doreste, “but still always knowing that our responsibility is to the customer, the Army, and by extension the American public.”

For Army Maj. Dan Henzie, DCMA Boeing Philadelphia chief of CH-47 flight

operations, the ability to affect the final product being delivered to the warfighter is very rewarding.

“I know a lot of the guys, the end-users around the world, who rely on these machines,” said Henzie. “That really brings it home.”



Karl Meixner, Defense Contract Management Agency quality assurance specialist, performs flights. Meixner has more than 30 years experience working with aircraft, the past seven and a half with DCMA. (Photos by Patrick Tremblay, DCMA Public Affairs)



Army Chief Warrant Officer 3 Jason Franzen, CH-47F acceptance test pilot, performs a pre-flight inspection on an Army CH-47 helicopter at Defense Contract Management Agency Boeing Philadelphia’s Ridley Park, Pa., facility. Each aircraft will be flown by active duty flight crews assigned to DCMA prior to final delivery to the customer. (Photo by Army Maj. Daniel Henzie, DCMA Boeing Philadelphia)

CH-47F Chinook (Army): [www.army.mil/factfiles/equipment/aircraft/chinook.html](http://www.army.mil/factfiles/equipment/aircraft/chinook.html)

The Chinook’s mission is to transport ground forces, supplies, ammunition and other battle-critical cargo in support of worldwide combat and contingency operations.

- Max Gross Weight: 50,000 lbs
- Empty Weight: 23,401 lbs
- Max Speed: 170 knots / 184 mph
- Normal Cruise Speed: 130 knots / 149 mph
- Rate of Climb: 1,522 ft/min
- Rotor System: three manual-folding blades per hub (two hubs); 225 revolutions per minute; 60-ft rotor span
- Troop Capacity: 36 (33 troops plus 3 crew members)
- Litter Capacity: 24
- Sling-load Capacity: 26,000 lb center hook; 17,000 lb forward/aft hook; 25,000 lb tandem
- Minimum Crew: 3 (pilot, co-pilot, and flight engineer)

V-22 Osprey (Marine Corps): [www.navair.navy.mil/v22/?tuseaction=aircraft.main](http://www.navair.navy.mil/v22/?tuseaction=aircraft.main)

According to the Navy, the Osprey’s tiltrotor combines the speed, range and fuel efficiency normally associated with turboprop aircraft with the vertical take-off/landing and hover capabilities of helicopters.

- Empty Weight: 33,459 lbs
- Max Speed: 257 knots / 296 mph
- Rate of Climb: 3,200 ft/min
- Proprotor System: three graphite/fiberglass blades per hub; 38 feet diameter, 661.9 feet per second tip speed
- Troop Capacity: 24
- Litter Capacity: 12
- Cargo Hook (dual) Capacity: 15,000 lbs
- Mission Radius: up to 267 nautical miles