

## NAVAIR/NAWCAD team expedites prototype replacement for U.S. Navy's MH-60S Gunner Seat



171026-N-JM744-001 (Patuxent River, MD) Members of the MH-60S Gunner Seat team from the NAVAIR Aircrew Systems program office (PMA-202) assess the 3D printed floor mount before fit checking it in a MH-60S Seahawk helicopter at Naval Air Station Patuxent River, Maryland, Oct. 26. (U.S. Navy photo)checking it in a MH-60S Seahawk helicopter at Naval Air Station Patuxent River, Maryland, Oct. 26. (U.S. Navy photo)

### By AIR-1.0 Public Affairs

Applying accelerated acquisition strategies and rapid prototyping, the Naval Air Systems Command's Aircrew Systems program office (PMA-202) is well underway toward fielding a replacement for the MH-60S Seahawk Gunner Seat by 2019.

"The existing MH-60S Seahawk Gunner Seat has directly contributed to medical groundings, degraded mission performance and a growing number of chronic back injuries among service members," said Capt. Dave Padula, PMA-202 program manager.

This issue has been identified for several years as a top Helicopter Sea Combat community safety priority, and has now reached the number two safety priority for all of Naval Aviation.



171026-N-JM744-002 (Patuxent River, MD) A member of the MH-60S Gunner Seat prototype team successfully installs the 3D printed floor mount in the Seahawk helicopter at Naval Air Station Patuxent River, Maryland, Oct. 26. (U.S. Navy photo)

Originally, the PMA-202 MH-60S Gunner Seat Team sought an industry solution to provide the fleet with a qualified seating system that could address the concerns raised in hazard reports and fleet visits. With the need to find a cost-effective solution that could be implemented as quickly as possible, top Navy leadership turned to the Naval Air Warfare Center Aircraft Division (NAWCAD)'s AIRWorks rapid prototyping team.

"In addition to the seat design work, AIRWorks is providing program management, lead systems integration, engineering, test and logistics management support for this project," said Gerald Swift, director of NAWCAD AIRWorks. "We're also fully engaged in the design/CAD drawing conversion, drafting and final material selection."

Within six months, the team had completed its initial design, using details based on existing performance specifications and supplemental fleet input. The concept design was completed by August 2016, and by September the first prototype was built.

The objective of the first prototype was to prove that NAVAIR could provide an upgrade that could address the fleet's primary concerns of inadequate leg clearance, insufficient back support, and no adjustability with the existing seat.

By November, the prototype was flown using HSC-28 resources for a total of three flight hours at Naval Station Norfolk, Va. And in January 2017, the team took the prototype on a first-of-its kind roadshow to NAS North Island in San Diego, Calif., allowing more than 150 pilots and aircrew to sit in the seat and provide their feedback.

Concern with the existing seat was voiced again during the flag panel at the Naval Helicopter Association (NHA) Symposium in May 2017. In response, Rear Admiral DeWolfe Miller (OPNAV N98) announced that he would fully fund a replacement gunner seat program. By June 2017, a follow-on formal acquisition effort was established to design, test, and build the next-generation gunner seat.

Since then, the NAVAIR/NAWCAD team has been refining and redesigning the seat, digitizing drawings and creating technical data packages in preparation to flight test the second prototype in March 2018. In addition, a 10-person Gunner Seat Fleet Task Force was created to allow the fleet to provide real-time input during each step of the prototype's development.

"The MH-60S Gunner Seat prototype is a significant milestone," said Gary Kurtz, NAVAIR assistant commander for Acquisition. "We are approaching a known, long-standing risk in an innovative way, and we are focused on trying to resolve this aircrew safety concern as quickly as we can. Feedback on the prototype helps ensure we are pointed in the right direction."

By taking "Speed to the Fleet" initiatives to heart, the NAVAIR/NAWCAD team has kept the focus on delivering fleet capability; understanding, managing and accepting risk; and communicating, collaborating and building trust among its stakeholders.