U.S. Navy, Boeing Conduct First MQ-25 Refueling Mission with F-35C

An unmanned Boeing MQ-25 T1 Stingray test aircraft, left, refuels a manned F-35 Lightning II, Sept. 13, 2021, near MidAmerica Airport in Mascoutah, Illinois. *U.S. NAVY*

ST. LOUIS – The U.S. Navy and Boeing have used the MQ-25 T1 test asset to refuel a U.S. Navy F-35C Lightning II fighter jet for the first time, again demonstrating the aircraft's ability to achieve its primary aerial refueling mission, the company said Sept. 14.

This was the third refueling mission for the Boeing-owned test asset in just over three months, advancing the test program for the Navy's first operational carrier-based unmanned aircraft. T1 refueled an F/A-18 Super Hornet in June and an E-2D Hawkeye in August.

"Every test flight with another type/model/series aircraft gets us one step closer to rapidly delivering a fully mission-capable MQ-25 to the fleet," said Capt. Chad Reed, the Navy's Unmanned Carrier Aviation program manager. "Stingray's unmatched refueling capability is going to increase the Navy's power projection and provide operational flexibility to the Carrier Strike Group commanders."

During a test flight Sept. 13, an F-35C test pilot from the Navy's Air Test and Evaluation Squadron 23 (VX-23) conducted a successful wake survey behind T1 to ensure performance and stability before making contact with T1's aerial refueling drogue and receiving fuel.

"This flight was yet another physical demonstration of the maturity and stability of the MQ-25 aircraft design," said

Dave Bujold, Boeing’s MQ-25 program director. “Thanks to this latest mission in our accelerated test program, we are confident the MQ-25 aircraft we are building right now will meet the Navy’s primary requirement – delivering fuel safely to the carrier air wing.”

The T1 flight test program began in September 2019 with the aircraft’s first flight. In the following two years, the test program completed more than 120 flight hours, gathering data on everything from aircraft performance to propulsion dynamics to structural loads and flutter testing for strength and stability.

MQ-25 is benefitting from the two years of early flight test data, which has been integrated back into its digital models to strengthen the digital thread connecting aircraft design to production to test to operations and sustainment. Boeing is currently manufacturing the first two MQ-25 test aircraft.

T1 will be used to conduct a deck handling demonstration aboard a U.S. Navy carrier in the coming months to help advance the carrier integration progress.