Joint Assault Bridge (JAB)

Executive Summary

- The Army conducted the first IOT&E of the Joint Assault Bridge (JAB) at Fort Bliss, Texas, on April 2 – 29, 2019. Because of the system's poor reliability during the IOT&E, the Program Executive Officer (PEO), as the Milestone Decision Authority, deferred the Full-Rate Production decision. The PEO intends to fix reliability issues and conduct a second IOT&E.
- The Army conducted the second IOT&E November 13 – 23, 2020. The DOT&E will determine operational effectiveness, operational suitability, and survivability for JAB following the second IOT&E.
- In FY20, the Army verified, through testing, that the Automatic Fire Extinguishing System updates and armor integration design changes successfully mitigated some of the vulnerabilities identified during the 2018 JAB LFT&E.
- The Program Office continues to work on improving the bridge launching mechanism and hydraulic power unit designs to mitigate additional vulnerabilities identified during the 2018 JAB LFT&E. These changes will be incorporated and validated through testing in FY21.

System

- The JAB replaces the Wolverine and M48/M60 chassis-based Armored Vehicle Launched Bridge (AVLB) systems in the Armored Brigade Combat Team (ABCT) Brigade Engineer Battalions and in the Mobility Augmentation Companies or Combat Engineer Companies.
- The design concept includes a M1A1 Abrams chassis with M1A2 heavy suspension, and a contractor-designed, integrated hydraulic bridge launch mechanism, and the existing Heavy Assault Scissor Bridge currently used by the AVLB. The Army intends the design to improve survivability and provide enhanced mobility ensuring freedom of maneuver, improved supportability, and enabling use of common battlefield communication suites.
- The Army assumed the lead for the JAB program in 2010 after the Marine Corps canceled the program due to cost and performance concerns.
- The JAB is an Acquisition Category II program with an acquisition objective of 297 systems.

Mission

Commanders employ JAB to enable the ABCT to close with and destroy the enemy by maneuvering over natural and man-made obstacles that would otherwise prevent freedom of maneuver.

Major Contractors

- Leonardo DRS Technologies, Inc. – St. Louis, Missouri
- Anniston Army Depot – Anniston, Alabama

Activity

- All testing was conducted in accordance with the DOT&E-approved Test and Evaluation Master Plan and test plans.
- The Army conducted the first JAB IOT&E at Fort Bliss, Texas, April 2 – 29, 2019. The test unit consisted of Armored and Engineer elements from 2nd Brigade, 1st Armored Division. Test event included combined-arms and in-stride breaching operations. In addition, the Army conducted a cybersecurity adversarial assessment.
- The Army planned to execute a second JAB IOT&E at Fort Riley, Kansas, in June 2020. The test was rescheduled to November 13 – 23, 2020, due to coronavirus (COVID-19) pandemic restrictions.
- The Army conducted a JAB tactics, techniques, and procedures (TTP) demonstration event with troops at Yuma Proving Ground (YPG), Arizona, February 11- 21, 2020. The demonstration was supported by soldiers from the JAB IOT&E 2 test unit in Fort Riley, Kansas. Product Manager (PM) Bridging led the demonstration, while the U.S. Army Test and Evaluation Command (ATEC) executed and analyzed the results. ATEC reported the trends of the updated system

design and provided an entrance risk assessment for JAB IOT&E 2. The user developed procedures and training packages for launching and retrieving the JAB system over combat obstacles at the event.
- In 2QFY20, the Army completed follow-on live fire testing to confirm that the design changes to the Automatic Fire Extinguishing System and armor integration mitigated the vulnerabilities identified during the JAB LFT&E completed in 2018.
- The Program Office continues to work on improving the bridge launching mechanism and hydraulic power unit designs to mitigate additional vulnerabilities identified during the 2018 JAB LFT&E. These changes will be incorporated and validated through testing in FY21.

Assessment
- Because of the system's poor reliability during the first IOT&E, the PEO, as the Milestone Decision Authority, deferred the Full-Rate Production decision. The PEO intends to fix reliability issues and conduct a second IOT&E. DOT&E plans to determine operational effectiveness, operational suitability, and survivability for JAB following IOT&E 2.
- The JAB demonstrated the capability to cross anti-tank ditches using a variety of techniques during the February 2020 TTP Demonstration event with troops at YPG. The JAB demonstrated an improved readiness rate over the readiness rate from IOT&E 1. The Army used the JAB demonstration event to refine their Doctrine and Tactics Training package. Their refinement will improve the quality of training provided to the unit before IOT&E 2.
- The Automatic Fire Extinguishing System updates and armor integration design changes successfully mitigated some of the vulnerabilities identified during the 2018 JAB LFT&E.

Recommendation
1. The Army should continue to correct vulnerabilities identified in JAB live fire testing to increase the ability of the unit equipped with JAB to continue to conduct its mission after a combat engagement.