

Joint Assault Bridge (JAB)

The Joint Assault Bridge (JAB) is operationally effective and suitable, and designed to protect the crew against operationally relevant kinetic threat engagements. Some mission critical systems are vulnerable to direct and indirect fires, preventing the crew from launching and retrieving the bridge after such engagements. To mitigate these vulnerabilities, the Program Office implemented vehicle survivability upgrades that will be verified through testing. The Army entered the JAB full-rate production with an intent to retrofit all vehicles with these survivability upgrades, if proven effective.



System Description

The JAB is an M1A1 Abrams chassis-based, armored vehicle-launched, bridge system intended to provide Armored Brigade Combat Teams (ABCT) with a wet or dry gap-crossing capability to enable freedom of maneuver on the battlefield. The JAB replaces the M104 Wolverine and M48/M60 in the ABCT Brigade Engineer Battalions and Mobility Augmentation Companies. The JAB design, based on the M1A1 Abrams chassis with M1A2 heavy suspension, heavy assault scissor hydraulic bridge, and additional armor kits, intends to provide enhanced mobility, supportability, and crew survivability, as well as the use of common battlefield communication suites.

Program

The JAB is an Acquisition Category II program. The Army delegated the acquisition decision authority to the Program Executive Officer, Combat Support and Combat Service Support. The Army entered full-rate production in FY21.

Major Contractors

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

Test Adequacy

The Army conducted the second IOT&E at Fort Riley, Kansas from November 13-23, 2020 and the LFT&E at Aberdeen Test Center, Maryland from November 2017 through March 2018 in accordance with DOT&E-approved test plans.

To mitigate the vulnerabilities identified in LFT&E, the Army implemented survivability upgrades to the bridge launching mechanism and hydraulic power unit and will verify those through testing in accordance with the DOT&E- approved test plan.

Performance

Effectiveness

The JAB is operationally effective. Engineer units equipped with the JAB demonstrated the ability to provide ABCT wet or dry gap-crossing capability, supporting the accomplishment of doctrinal combat missions. JAB crews launched and retrieved bridges within the time requirements and kept pace with maneuver forces on roads and cross-country.

Suitability

The JAB is operationally suitable, demonstrating adequate availability to the maneuver commander for every planned operation. The JAB exceeded the mean cycles between operational mission failures requirement as well as the mean miles between operational mission failures requirement. On rough terrain, JAB crews had difficulty reconnecting the launcher tongue to the bridge.

Survivability

The JAB is designed to protect the crew from operationally relevant kinetic threat engagements. Some mission critical systems are vulnerable to kinetic threats preventing the crew from launching and retrieving the bridge after an engagement. The Program Office implemented vehicle survivability upgrades to mitigate some of those vulnerabilities. The effect of those upgrades on JAB survivability will be detailed in an update to the JAB IOT&E 2 and LFT&E report that was published in March 2021, after the Army completes the live fire verification testing.

The JAB is vulnerable in a cyber-contested environment. Specific vulnerabilities and their effect on mission accomplishment are described in the classified survivability annex of the JAB IOT&E 2 and LFT&E report published in March 2021.

Recommendations

The Army should:

1. Verify through testing that the JAB survivability design changes mitigate the identified vulnerabilities.
2. Improve JAB usability by developing a way to allow the launcher tongue to reconnect on rough ground.