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The Army's M-10 Booker (Formerly Known as Mobile Protected Firepower [MPF]) System

What Is the Mobile Protected Firepower (MPF) System?

The Army's MPF system is intended to address an operational shortfall in infantry units:

Currently the Army's Infantry Brigade Combat Teams (IBCT) do not have a combat vehicle assigned that is capable of providing mobile, protected, direct, offensive fire capability.... The MPF solution is an integration of existing mature technologies and components that avoids development which would lengthen the program schedule.

Operationally, the Army wants the MPF to be able to

[n]eutralize enemy prepared positions and bunkers and defeat heavy machine guns and armored vehicle threats during offensive operations or when conducting defensive operations against attacking enemies.

In terms of the Army's overall procurement plans for MPF,

[t]he Army Acquisition Objective (AAO) for MPF is 504 vehicles, with 14 MPFs per IBCT. The targeted fielding for the First Unit Equipped (FUE) is Fiscal Year (FY) 2025.

MPF Redesignated as the M-10 Booker

On June 14, 2023, the Army announced the redesignation of the MPF as the M-10 Booker infantry assault vehicle. According to the Army,

The vehicle platform honors two enlisted Army soldiers who served our nation selflessly during times of great conflict – Medal of Honor recipient Private. Robert D. Booker, who perished in World War II, and Distinguished Service Cross recipient Staff Sergeant Stevon A. Booker, who died from injuries sustained in Operation Iraqi Freedom.

M-10 Acquisition Strategy

In November 2017, the Army issued a Request for Proposal (RFP) for the Engineering and Manufacturing Development (EMD) phase and, in order to maximize competition, planned to award up to two Middle Tier Acquisition (MTA) contracts for the EMD phase in early FY2019.

Middle Tier Acquisition (MTA) according to the Defense Acquisition University is a rapid acquisition approach that focuses on delivering capability in a period of 2 to 5 years. The authority to use MTA was granted by Congress in Section 804 of the FY2016 National Defense Authorization Act (NDAA) (P.L. 114-92). Programs using MTA are not subject to the Joint Capabilities Integration Development System (JCIDS) and provisions of Department of Defense (DOD) Directive 5000.01 "Defense Acquisition System." MTA consists of utilizing two acquisition pathways: (1) Rapid Prototyping, which is to streamline the testing and development of prototypes, and (2) Rapid Fielding, which is to upgrade existing systems with already proven technologies.

On December 17, 2018, the Army awarded two Section 804 MTA Rapid Prototyping contracts for MPF. The two companies awarded contracts were General Dynamic Land Systems (GDLS), Inc. (Sterling Heights, MI) and BAE Systems Land and Armaments, LP (Sterling Heights, MI). Each MTA Rapid Prototyping contract was not to exceed \$376 million. The MTA Rapid Prototyping contracts required delivery of 12 preproduction vehicles (from each vendor) for developmental and operational testing, and a Soldier Vehicle Assessment (SVA).

M-10 Program Status

The SVA reportedly began in January 2021 at Fort Liberty, NC—without the BAE prototypes because of production challenges—with testing running through June 2021. While BAE was unable to provide prototypes at the beginning of testing, prototypes were eventually provided to the Army for testing. During the assessment, soldiers evaluated GDLS and BAE M-10 prototypes in a variety of operational scenarios.

MPF Low-Rate Initial Production (LRIP) Contract Awarded

On June 28, 2022, the Army announced the award of a \$1.14 billion contract to GDLS for the production and fielding of up to 96 M-10 systems (**Figure 1**). Delivery of the first LRIP M-10 system was expected in 19 months, and Initial Operational Testing and Evaluation was planned for the end of FY2024. The first unit equipped is scheduled for the fourth quarter of FY2025, consisting of a battalion of 42 M-10s. Each LRIP M-10 system is expected to cost about \$12.8 million. Full-Rate Production M-10 systems are expected to cost less than LRIP variants and may include modifications based on Operational Testing and Evaluation results. On August 22, 2024, GDLS announced the Army had awarded GDLS a \$322.7 million contract for continued M-10 LRIP, with the work to be done in Sterling Heights, MI; Anniston, AL; Lima, OH; Tallahassee, FL; and Scranton, PA, with an estimated completion date of October 20, 2026.

Future M-10 Fielding

The Army's M-10 acquisition objective is for 504 systems for the active Army and National Guard, with Army officials reportedly noting that this number could vary "slightly." Under current Army plans, four M-10 battalions are to be fielded by 2030, with the bulk of the planned acquisition scheduled to be completed by 2035. Reportedly, the Army plans for the M-10 to enter service with the 10th Mountain Division at Fort Drum, NY; the 82nd Airborne Division at Fort Bragg, NC; and the 101st Airborne Division at Fort Campbell, KY, starting the fourth quarter FY2025. It is not known if these active Army divisions will receive full M-10 battalions or smaller sized units such as companies.

Figure 1. GDLS M-10 Variant



Source: General Dynamics, "General Dynamics Land Systems Wins U.S. Army Competition for Mobile Protected Firepower Vehicles," June 29, 2022.

FY2022 Director, Operational Test and Evaluation Report

In January 2023, the Department of Defense's Director, Operational Test and Evaluation Report (DOT&E) issued its annual report on the previous fiscal year's test and evaluation activities. The report notes the M-10's progress toward achieving operational effectiveness is "satisfactory." The report also noted, "Developmental testing found the M-10 had high levels of toxic fumes when firing the main gun, requiring modifications to crew procedures during firing to mitigate the build-up of fumes in the turret."

M-10 Testing

Reportedly, the M-10 is scheduled to begin a series of tests to determine what modifications may be needed prior to full rate production. In early July 2024, soldiers at Fort Bragg, NC, are scheduled to begin new equipment training lasting through August or September 2024. Reportedly, final testing is planned to be conducted at Fort Bragg in January and February 2025. If final testing is successful, the M-10 is to be sent to an Initial Operational Test and Evaluation (IOT&E) event to determine what near-term and long-term changes GDLS will need to make to the system. The

IOT&E test event, if successful, could result in a FRP decision in the April to June 2025 timeframe. Also, reportedly, in response to DOT&E's January 2023 report, the Army and GDLS "have worked on several vehicle fixes including two larger items: toxic fumes and cooling."

Considerations for Congress

Oversight questions Congress could consider include the following.

2024 Army Force Structure Transformation and M-10 Units

Reportedly, the Army is planning to create MPF battalions. From these battalions, MPF companies would then be allocated to IBCTs. On February 27, 2024, the Army announced "changes to its force structure that will modernize and continue to transform the service to better face future threats." While the Army mentions the creation of a number of units based on modernization programs, no mention is made of M-10 units. Considering the M-10 is a major modernization effort currently procuring systems, it seems inconsistent that the Army would not include M-10 units in its 2024 Force Structure Transformation White Paper. Given this apparent omission, Congress might seek clarification with senior Army leadership on the status of M-10 procurement and fielding to active Army and National Guard units.

M-10 Vulnerability to Unmanned Aerial Systems (UAS) and Loitering Munitions

Reportedly, "heavy tank losses in Ukraine and other recent conflicts from cheap loitering munitions and anti-tank weapons have led to questions over their future utility." In particular, one report notes

Ukrainian and Russian forces are scrambling to field countermeasures for protecting tanks against one-way attack drones, which experts say are a growing challenge even for vehicles traveling at speed. In the large category of unmanned aerial vehicles, the class of first-person-view drones, essentially steerable miniature warheads, have emerged as a ubiquitous threat.

Given this threat and reported vulnerability, Congress might further explore with the Army specific M-10 design characteristics and countermeasures intended to address the threat posed by UAS and loitering munitions.

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