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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 Bragg, 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 is expected in 19 months, and Initial Operational Testing and Evaluation is 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.

Future M-10 Fielding

The Army's M-10 acquisition objective is for 504 systems, 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.

Low-Rate Initial Production (LRIP) is a programmatic decision made when manufacturing development is completed and there is an ability to produce a small-quantity set of articles. It also establishes an initial production base and sets the stage for a gradual increase in the production rate to allow for Full-Rate Production (FRP) upon completion of Operational Test and Evaluation.

Full-Rate Production (FRP) is a decision that allows for government contracting for economic production quantities following stabilization of the system design and validation of the production process.

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." DOT&E recommended the Army "continue implementing system design fixes to reduce the high level of toxic fumes when firing the main gun." DOT&E further recommended the Army "continue improving the vehicle's cooling system to reduce preventative maintenance checks and services times required."

FY2025 M-10 Budgetary Information

Table 1. FY2025 M-10 Budget Request

Funding Category	Total Request ($M)	Total Request (Qty.)
RDT&E	$48.1	—
Procurement	$460.6	33

Source: Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, *Program Acquisition Cost by Weapon System, United States Department of Defense Fiscal Year 2025 Budget Request*, March 2024, p. 3-8.

Notes: RDT&E = Research, Development, Test & Evaluation; **$M** = U.S. dollars in millions; **Qty.** = FY2025 procurement quantities.

According to DOD, FY2025 funds requested for the M-10 are intended to

> [f]und completion of Booker [M-10] LRIP Phase developmental and operational testing, production of the initial FRP lot of 33 vehicles, maintenance of system software, monitoring of potential system obsolescence, engineering changes, management of the Booker Technical Data Package (TDP), and fielding of LRIP vehicles to the Booker First Unit Equipped (FUE).

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 units.

Basing M-10 Units

There are concerns about suitable storage and maintenance facilities and training ranges for M-10 units assigned to infantry posts not structured to accommodate armored fighting vehicles. A possible solution might be to station M-10 units at bases better suited to support armor units, but the Army reportedly would like to keep M-10 units within at least a six-hour drive from the division they are assigned to. Another issue is that there might be related challenges in creating M-10 units in the Army National Guard. Given these M-10 unit-related considerations, Congress might also monitor the Army's progress in addressing the aforementioned challenges in creating new M-10 units.

Andrew Feickert, Specialist in Military Ground Forces

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