



17833



Multipurpose Machine Gun (MPMG)

RANGE DESIGN GUIDE



RANGE AND TRAINING LAND PROGRAM – MANDATORY CENTER OF EXPERTISE

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General

This document contains information specific to a Multipurpose Machine Gun Range (MPMG), FCC 17833. It describes the design and construction information that is specific to this range. Use the range specific information in this section along with the appropriate general sections in the RDG for information on range features that are generic to multiple range types.

Purpose

The Multipurpose Machine Gun (MPMG) range is used to train and test soldiers on the skills necessary to zero, detect, identify, engage, and defeat stationary and moving infantry and armor targets in a tactical array. The range supports both light and heavy machine guns in both vehicle mounted and ground based configurations. Older MPMG ranges included the Sniper Field Fire (SFF), FCC 17812, as an overlay, but is no longer standard and requires an exception.

Primary Features

The primary features of the ranges are divided into two categories: the Range and the Range Operations and Control Area (ROCA).

Range

The following drawings show the standard layouts. They are included at the end of this document.

- [MPMG-C-01](#)
- [MPMG-E-01](#)

Layout

Use the standard layout referenced above as the basis for the range.

The MPMG is a lane-based qualification range. The standard has 10, wedge shaped lanes with two different lane configurations, six light (wing) lanes and four heavy (center) lanes. The wing lanes extend to 800M. The center lanes extend to 1500M. The center lanes typically have vehicle firing pads.

The table below provides the target count.

NUMBER	FEATURE	RDG SECTION/DETAIL
20	Stationary Armor Target	SAT
56	Stationary Infantry Target	SIT
32	Double Target Arm - Stationary Infantry Target	SIT
8	Widened Stationary Infantry Target	SIT
10	Target Boots	Target Boots
10	2-Man Fighting Position	Fighting Positions
4	Vehicle Firing Pad	Fighting Positions

Firing Line

Provide fighting positions along the firing line for each lane. Fighting positions should be on slightly elevated ground and designated with numbered markers. Two-man fighting positions are required in each lane. The four center (heavy) lanes also have vehicle firing pads and generally use the combination position. The combination position supports both dismounted and vehicle firing. Refer to the standard fighting positions shown in the Civil Details. Firing line typically includes red and white lighting and a PA system.

Down Range

The range has 10 lanes, each 25 meters wide at the firing line, becoming wider as the distance from the firing line increases. The lanes are a minimum of 100M wide at 800 meters.

The six wing lanes support light machine gun qualification. The four center lanes support both light and heavy machine gun training; they also support Mk-19 qualification (non-dud producing).

Use one of the three different array configurations (check, linear, or linear with depth) for the SIT target emplacements at 600M and 800M. The configurations are shown on the range layout drawing. To make the best use of existing terrain, the lanes may, but do not have to, use the same configuration. Wire the arrays as clusters; refer to the SIT Cluster Section for additional information. Other target groups may also be wired as clusters where economically feasible.

Keep the distance from the firing line to the target as close to the standard distance as possible. The distance may vary up to 5 meters to avoid undesirable locations without an exception to standard. Larger distance adjustments are possible especially at the longer distances, but require the approval of TPO Range, RTLP MCX, and the Installation. Maximum variance is 25 meters for target lines to the 800 meter distance and 200 meters for the 1100 and 1500 meter distances. The targets in each lane should not line up; place them left or right within each lane to avoid bad locations, improve visibility, and increase training effectiveness.

Line of Sight

Refer to the [Line of Sight](#) (LoS) section of the RDG for LoS requirements, procedures, and submittal requirements.

The range is lane-based, requiring line of sight from the firing positions to each target within that lane. The limit markers also need to be visible from each firing position.

The control tower must have an unobstructed view of the entire firing line.

Targetry

The MPMG uses fully automated targets with event-specific, computer-driven target scenarios and scoring. The targetry computer in the Control Tower controls the targets through the target data network. The target data network is generally hard-wired out to 800 meters. The 1200 and 1500M are typically Radio Frequency (RF) controlled. Refer to the Electrical Range Design Section of the RDG for further information. The computer captures the scoring data, which is then available to the unit for after action review (AAR).

ROCA

Refer to the ROCA section of the RDG for general design information for each specific structure. Base the ROCA for the MPMG on the Small Arms ROCA.

The Control Tower must have an unrestricted view of the firing line. Range operators in the tower should be able to see most of the target area.

NAME	SIZE	UoM	RDG SECTION
Control Tower – Small Arms	1	EA	Control Towers
Operations/Storage Building, Standard	800	SF	Operations and Storage Buildings
Classroom Facility	800	SF	Classroom and AAR Facilities
Latrine: Vault (Latrine: Water)	330 (550)	SF	Latrines
Bleacher Enclosure	1	EA	Bleacher Enclosure
Covered Mess	800	SF	Covered Mess
Ammunition Breakdown Building	185	SF	Ammunition Breakdown Building

Requirement Documents

Refer to Training Circular TC 25-8, Training Ranges, for additional information and references to the FMs, ARTEPs, TCs, etc. that describe and require the training on this type of range. The latest TC 25-8 is available at Army Knowledge Online (www.us.army.mil) and the General Dennis J. Reimer Training and Doctrine Digital Library (www.train.army.mil).

Additional Information

None



