

CONTENTS

		<i>Paragraphs</i>	<i>Page</i>
CHAPTER 1. GENERAL		1-4	1
CHAPTER 2. ORGANIZATION.			
<i>Section</i> I. Automatic Weapons Squad.....		5-7	6
II. Automatic Weapons Section.....		8-9	9
III. Automatic Weapons Platoon.....		10-12	10
CHAPTER 3. VEHICLE CHASSIS		13-19	12
CHAPTER 4. ARMAMENT.			
<i>Section</i> I. Combination Gun Mounts M42 and M54.....		20-27	15
II. 37-mm Gun M1A2.....		28-37	21
III. Machine Gun, Caliber .50 M2, HB.....		38-49	27
IV. Boresighting.....		50-52	30
CHAPTER 5. SIGHTING SYSTEMS.			
<i>Section</i> I. Sighting Systems M6 and M5.....		53-56	33
II. Computing Sight M14.....		57-62	39
III. Ring sights D7689257 and D7689258.....		63-65	45
CHAPTER 6. DRILL FOR AUTOMATIC WEAPONS SQUAD.			
<i>Section</i> I. General.....		66-68	48
II. Preliminary commands and formations.....		69-74	49
III. Action commands.....		75-93	51
CHAPTER 7. STOWAGE.			
<i>Section</i> I. M15 Carriage.....		94-98	68
II. M15A1 Carriage.....		99-103	72
CHAPTER 8. TECHNIQUE OF EMPLOYMENT		104-107	76
CHAPTER 9. DESTRUCTION AND DECONTAMINATION.			
<i>Section</i> I. Destruction of matériel.....		108-113	80
II. Decontamination.....		114-115	86
CHAPTER 10. OPERATIONAL CHECKS AND PREVENTIVE MAINTENANCE.			
<i>Section</i> I. General.....		116-117	87
II. Operational Checks.....		118-119	89
III. Preventive Maintenance.....		120-122	92
INDEX.....			100

RESTRICTED

This manual supersedes FM 4-159, Service of the Piece, Multiple Gun Motor Carriage M15, 28 September 1943.

CHAPTER 1

GENERAL

1. INTRODUCTION. This manual prescribes the knowledge and skill required to serve effectively the multiple gun motor carriages M15 and M15A1. Variations in assigned matériel may necessitate changes in the prescribed drill.

2. DESCRIPTION. **a.** The multiple gun motor carriages M15 and M15A1 are armored half-track vehicles capable of maneuvering over rough terrain. (See fig. 1.) The carriage mounts one 37-mm automatic gun and two caliber .50 HB machine guns. The three guns are mounted with the axes of their bores parallel. The guns are fired with the mount in traveling position. The gun crew rides the mount in their firing positions, ready to open fire on a few seconds notice. The squad leader rides in the cab with the driver and operates the radio when on convoy. The driver operates the radio when the vehicle is stopped. All members of the gun crew act as anti-aircraft lookouts.

b. An armored bucket is provided for protection of the gun crew. The bucket is open in the rear to permit servicing the weapon from the ground. The half-track vehicle is armored and provides protection for the driver and engine. An opening in the front of the bucket permits firing at minimum elevation.

Note. For military terms not defined herein, see TM 20-205.

c. The weapon is traversed and elevated by the lateral and vertical gun pointers, each operating a pair of handwheels. The armored bucket traverses with the mount. The vertical gun pointer fires the weapon.

d. Provision is made on the carriage of the M15 for stowage of 3,400 rounds of caliber .50 and 240 rounds of 37-mm. ammunition, spare barrel, and tools, in addition to small arms, hand grenades, and other auxiliary equipment. On the M15A1, 1000 rounds of caliber .50 and 200 rounds of 37-mm. ammunition are carried on the carriage, in addition to some of the above-mentioned equipment. Additional ammunition and the remainder of the equipment is carried in the ammunition trailer for multiple gun motor carriage M15A1. (See pars. 100-103.)

3. METHODS OF POINTING. The sighting system M6 is used for pointing the weapons on M15. The computing sight M14 is the standard sighting system used for pointing the weapons on the M15A1, but the sighting system M5 may be issued as a substitute.

4. COMPARISON OF M15 AND M15A1. The M15 and M15A1 while mounting the same armament have basic differences. The M15 has either the 37-mm. M3 or M3B1 top carriage, whereas the M15A1 has the 37-mm. M3A1 top carriage. Because of the differences in the top carriage, the seats of the trackers on the M15A1 are on the floor of the bucket giving them complete frontal and side protection behind the shield. The front portion of the bucket on both the left and right side has been hinged so it can be lowered giving the trackers a clear line of sight for low-flying planes or terrestrial fire. A simple latch has been provided for holding the shield in place in either the up or down position. On the



Figure 1. Multiple gun motor carriage MGC

M15, because of the height of the elevating and traversing column on which the elevating and traversing handwheels are fastened, the seats of the trackers are higher and part of their bodies are exposed from the protection of the shield. The M15 has handwheels with two gear ratios for both elevating and traversing the weapon, whereas the M15A1 has hand cranks with only one gear ratio for the same purpose. (See par. 21.) On the M15 the axes of the bores of the caliber .50 machine guns are above the axis of the bore of the 37-mm. gun, while on the M15A1 the reverse is true. Due to this fact it has been found necessary to mount a spring buffer and rail on the bulkhead of the M15A1 to prevent firing the two caliber .50 machine guns into the cab when pointing the weapon in that direction. The M15A1 is equipped with the computing sight M14. The M15 is equipped with the sighting system M6. The two sighting systems are entirely different in appearance and operation. In some cases the sighting system M5 may be issued as a substitute for the computing sight M14 on the M15A1. The M5 and M6 sighting systems are similar in appearance and identical in operation. The M5 sighting system sits down lower in the bracket and the scopes are slightly further apart than in the M6 sighting system because of differences in the construction of the mount. On the M15A1 both firing foot pedals for the 37-mm. and two caliber .50 machine guns are on the floor of the bucket side by side. On the M15 the 37-mm. firing foot pedal is on the floor of the bucket, whereas the firing mechanism for the two caliber .50 machine guns consists of a foot treadle assembly bolted to the lower portion of the elevating mechanism gear case. The M15A1 has a mechanism change lever located under the cradle for firing the 37-mm. gun either automatic or semiautomatic fire. A guardrail has been

mounted on the M15A1 across the open rear portion of the bucket, to give the men protection from being tossed out while the vehicle or mount is operated, and to assist in getting in and out of the bucket more rapidly. Any other differences between the M15 and M15A1 are covered in the following text.

DEMO
dimensione ridotta

ORGANIZATION

Section I. AUTOMATIC WEAPONS SQUAD.

5. GENERAL. The automatic weapons squad is composed of seven enlisted men. The squad leader, who is a corporal, commands the squad. The lead setter (gunner) is second in command of the squad. The gun pointers, two cannoneers, and the driver make up the balance of the squad. (See fig. 2.)

6. DUTIES OF PERSONNEL. **a. Driver.** The driver operates the vehicle. He is responsible for first-echelon maintenance of the vehicle. He keeps the squad leader informed as to the status of fuel, oil, and water in the vehicle. When the vehicle is halted and engaging targets, he operates the radio.

b. Cannoneers. The two cannoneers serve the two caliber .50 machine guns and the 37-mm. gun. They are responsible for the functioning of the guns and preparing of the ammunition. They keep the squad leader informed as to the status of ammunition.

c. Gun Pointers. The gun pointers point the weapon by means of tracking telescopes (sights) and handwheels. They must be able to track smoothly and accurately. The gun pointers **MUST** keep their eyes about 1 foot from the telescopes, and both eyes **MUST** be open. Each gun pointer uses his dominant eye in sighting. The vertical gun pointer fires the weapon by means of two foot pedals. The right pedal fires both machine guns and the left pedal fires the 37-mm gun. The gun pointers are

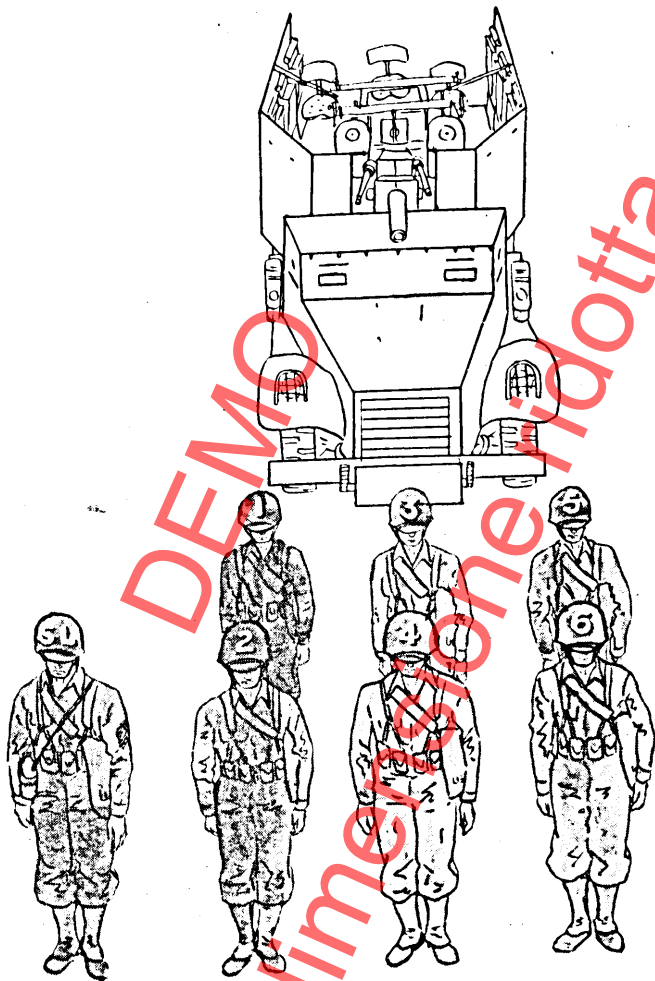


Figure 2. Automatic weapons squad.

responsible for the condition of their sights and the traversing and elevating mechanisms of the mount.

d. Lead Setter (Gunner). The lead setter applies leads to the sighting system and adjusts the tracer stream to obtain hits. He is responsible for the functioning and maintenance of the sighting system. The lead setter assists the squad leader in coordinating and supervising the duties of the squad members.

e. Squad Leader. The leader commands the squad. He is responsible for the training of the squad and its functioning as a team during combat. He initiates action for the replenishment of fuel, oil, water, and ammunition through his section leader.

7. TRAINING. Each member of the automatic weapons squad must be trained and proficient in the following subjects:

a. Nomenclature, operation, care, and adjustment of the 37-mm gun (FM 44-58 and TM 9-235) and the caliber .50 machine gun (FM 4-155, TM 9-225, and TM 9-1225).

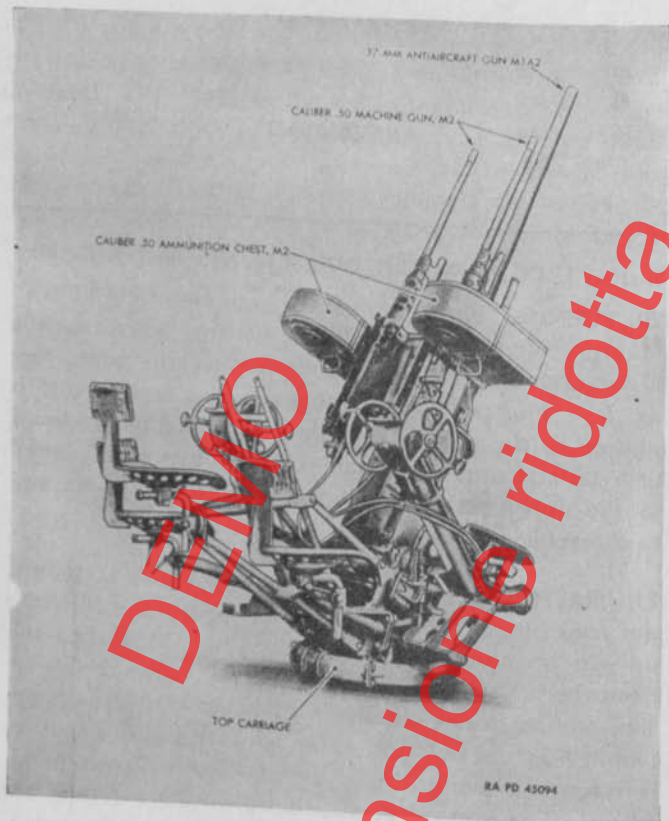
b. Nomenclature, operation, care, and adjustment of the combination gun mounts M42 and M54 (TM 9-235).

c. Nomenclature, operation, care, and maintenance of the half-track vehicle (TM 9-710).

d. Drill of the squad; the assigned positions in the squad are rotated (CHANGE ORDER) until all members can perform any duty within the squad.

e. Selection of positions (FM 44-2 (now published as 4-101 and 4-102)).

f. Local defense and camouflage (FM 5-20 and 44-2 (now published as 4-101 and 4-102)).



• *Figure 5. Combination gun mount M42.*

(2) Modification will provide for two traversing rates of 12° and 24° per handwheel turn (maximum effective traverse rates of 30° - 35° and 60° - 65° per second).

22. ELEVATING MECHANISM. a. On the gun mount M42 the elevating mechanism is contained in the upright post on the right of the mount. (See fig. 7.) By sliding

the handwheels laterally along their axes either a fast or slow motion can be obtained. The limits of elevation are 0° and 85° . The minimum elevation when firing over the front of the vehicle is approximately 15° .

b. The elevating mechanism of the M54 mount is found to the right of the cradle. There is one speed obtainable by the elevating hand crank. The gun and cradle are elevated 4.67° for each turn of the hand crank. The limits of elevation are -5° to 90° . A spring buffer and rail prevent firing the caliber .50 machine guns into the cab when pointing over the front of the vehicle.

23. FIRING MECHANISM. (Figs. 8 and 9) a. The vertical gun pointer is provided with two foot pedals, the left pedal acting as a control for firing the 37-mm. gun. This foot pedal is provided with a latch lever which is located to the left of the pedal. The gun pointer fires the weapon by disengaging the latch (pressing the lever to the left) and then pushing the pedal down. On the gun mount M42, the gun continues to fire as long as the foot pedal is depressed. On the gun mount M54, there is a mechanism change lever which provides changing the type of firing. When this lever points to the right, the word AUTO is shown and provides full automatic firing of the gun. When this lever is pointed to the left, the word FOOT is shown and provides semiautomatic firing. This mechanism change lever is located directly behind the cradle under the lead setter's feet.

b. On the gun mount M42, the firing mechanism for the two caliber .50 machine guns consists of a foot-pedal operated by the right foot of the vertical gun pointer. Both caliber .50 machine guns are fired simultaneously by pressing down on the pedal.

c. On the gun mount M54, the firing mechanism for the two caliber .50 machine guns (fig. 9) consists of a

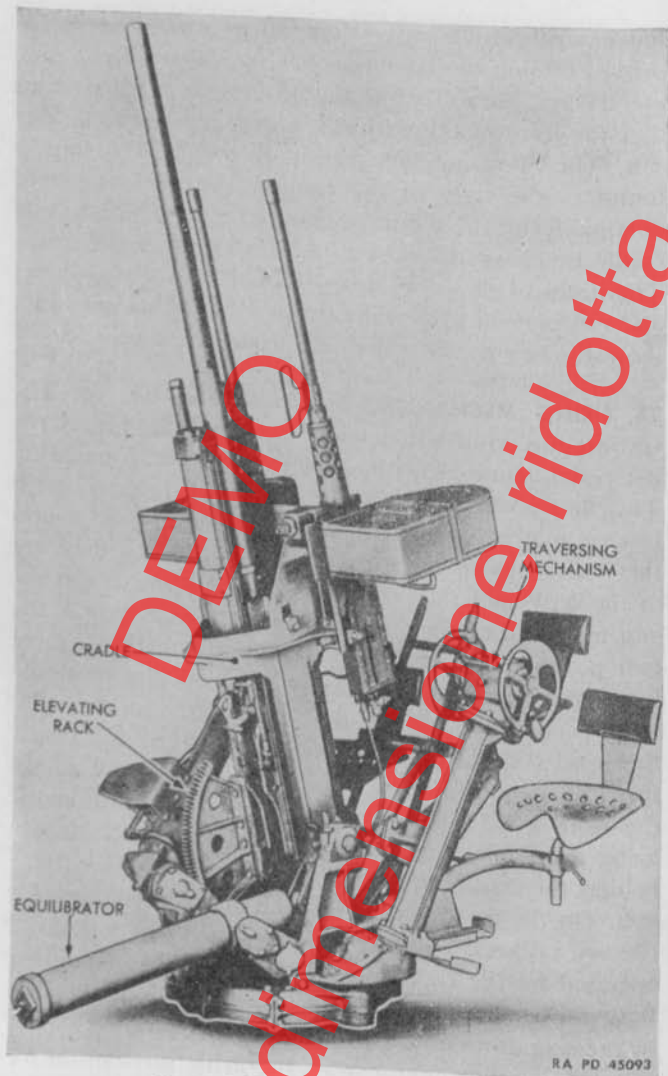


Figure 6. Traversing mechanism, M42.

RA PD 45093