

TM 9-308

WAR DEPARTMENT TECHNICAL MANUAL

76-mm GUNS M1A1C and M1A2 MOUNTED IN COMBAT VEHICLES

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This manual supersedes TM 9-308, 29 June 1943, and TB 9-308-1, 13 May 1944. This manual also supersedes so much of TB ORD 122, 12 August 1944; TB ORD 193, 30 September 1944; TB ORD 246, 29 January 1945; and TB ORD 340, 26 March 1947, as pertains to the materiel covered in this manual.

76-mm GUNS
M1A1C and M1A2
MOUNTED IN
COMBAT VEHICLES



WAR DEPARTMENT • SEPTEMBER 1947

WAR DEPARTMENT

Washington 25, D.C., 15 September 1947

TM 9-308, 76-mm Guns M1A1C and M1A2, Mounted in Combat Vehicles, is published for the information and guidance of all concerned.

The information in this manual is effective as of 10 June 1947.

[AG 300.7 (10 Aug 43)]

BY ORDER OF THE SECRETARY OF WAR:

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For explanation of distribution formula, see TM 38-405.

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PART ONE

INTRODUCTION

Section I. GENERAL

I. Scope

a. This manual is published for the information of the using arms and services. It contains technical information required for the identification, use, and care of the 76-mm guns M1A1C, M1A2, mount M1 for motor carriage M18, and combination gun mount M62 for medium tanks T23, M4A1, M4A2, and M4A3, ammunition, and accessory equipment.

b. In all cases where the nature of repair, modification, or adjustment is beyond the scope or facilities of the unit, the responsible ordnance service should be informed so that trained personnel with suitable tools and equipment may be provided, or proper instructions issued.

2. Records

a. **ARTILLERY GUN BOOK.** (1) The artillery gun book (O.O. Form 5825) is used to keep an accurate record of the matériel. It must always remain with the matériel regardless of where it may be sent. The book is divided as follows: Record of assignment; battery commander's daily gun record; inspector's record of examination. It must contain date of issuance of the matériel, by whom used, and the place where issued.

(2) This book should be in the possession of the organization at all times, and its completeness of records and its whereabouts are the responsibility of the battery commander. If a new gun is installed on the mount, all data recorded in the old book with reference to sights, mounts, etc., must be copied into the new book before the old book is relinquished.

(3) When a gun book for a weapon has been lost and every effort to obtain the original gun book has been to no avail, the supporting ordnance maintenance unit will prepare a new gun book listing such information as they may be able to obtain from any source and estimate the number of rounds fired from the weapon. The number of rounds entered in the new gun book should be clearly indicated as estimated number of rounds fired. Inquiries concerning lost gun books should also be for-

Note. Record of assignment data must be removed and destroyed prior to entering combat.

warded to the Office, Chief of Ordnance, Field Service Division, Maintenance Branch, Artillery Section, Washington 25, D.C.

(4) An artillery gun book which has become separated from the weapon to which it pertains and for which efforts to locate the weapon have failed, should be forwarded immediately to the Office, Chief of Ordnance, Field Service Division, Maintenance Branch, Artillery Section, Washington 25, D. C.

(5) Complete instructions on how to make entries in the artillery gun book are contained therein. It is absolutely essential that the gun book entries be kept complete and up to date. In order to facilitate proper maintenance of the cannon and its related matériel (that is, mount, recoil mechanism, and associated fire control equipment) and to avoid unnecessary duplication of repairs and maintenance, the following additional entries are to be made in the gun book:

(a) A record of completed modification work orders. This record should show the date completed and bear the signature of the officer or mechanic responsible for completion of the modification.

(b) A record of seasonal changes of lubricants and change of recoil oil in sufficient detail to prevent duplication and afford proper identification by the inspector.

b. **FIELD REPORT OF ACCIDENTS.** When an accident involving ammunition occurs, the incident will be reported as prescribed in AR 750-10 by the ordnance officer under whose supervision the ammunition is maintained or issued.

c. **UNSATISFACTORY EQUIPMENT REPORT.** Suggestions for improvement in design, maintenance, safety, and efficiency of operation prompted by chronic failure or malfunction of the weapon, spare parts, or equipment should be reported on WD AGO Form 468 (Unsatisfactory Equipment Report) with all pertinent information necessary to initiate corrective action. The report should be forwarded to the Office, Chief of Ordnance, Field Service Division, Maintenance Branch, through technical channels in accordance with instruction No. 7 on the form. Such suggestions are encouraged in order that other organizations may benefit. If Form 468 is not available, refer to TM 38-650 for list of data required on unsatisfactory equipment report.

Section II. DESCRIPTION AND DATA

3. General

a. The 76-mm gun matériel described herein consists of the following units:

76-mm gun M1A1C

76-mm gun M1A2

76-mm gun mount M1

Combination gun mount M62

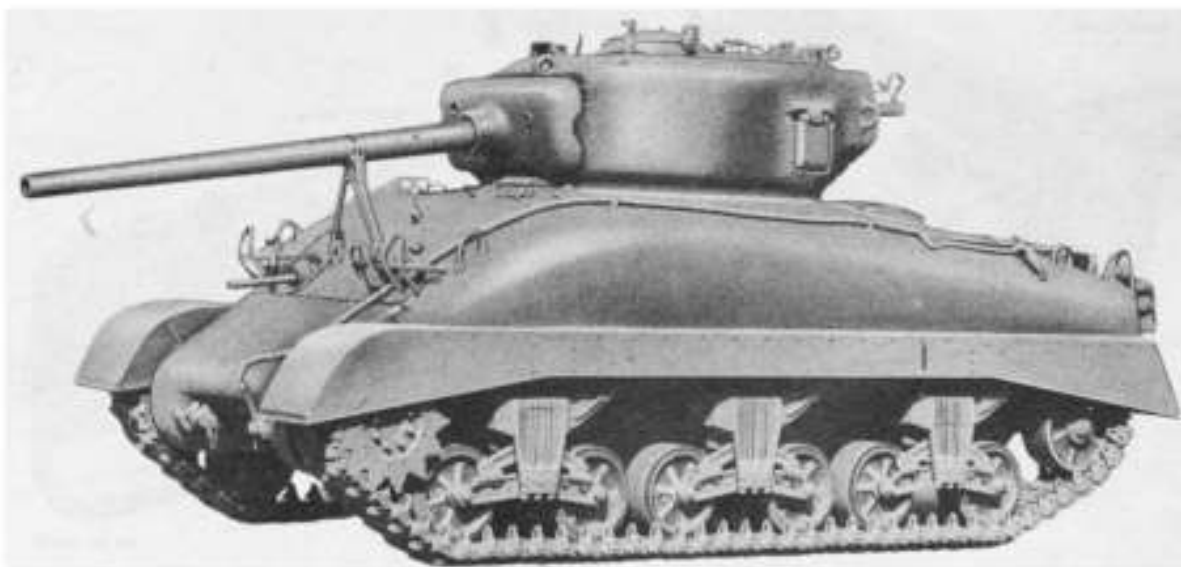
b. The 76-mm gun, when used with the M1 mount, is located in the turret of the gun motor carriage M18 (fig. 1). When used with the combination gun mount M62, the 76-mm gun is located in the turret of the medium tanks M4A1, M4A2, and M4A3 (fig. 2).

c. The 76-mm guns M1A1C and M1A2 (figs. 3 and 4) are single-shot, hand-loaded, flat trajectory weapons with an automatically operated sliding wedge type of breechblock (fig. 5).



RA PD 86645

Figure 1. Armament—gun motor carriage M18.

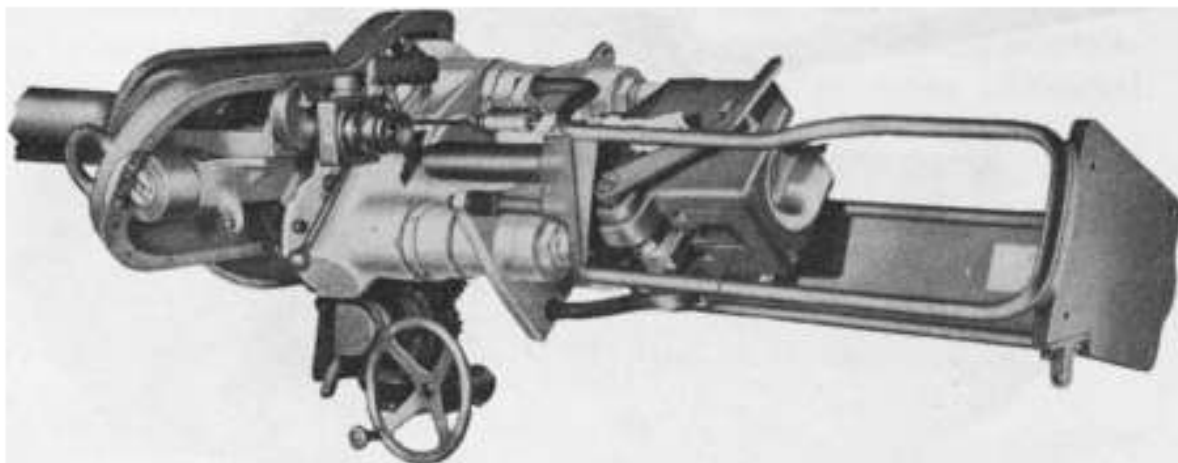


RA PD 313327

Figure 2. Left front view of medium tank M4A1, with 76-mm gun.

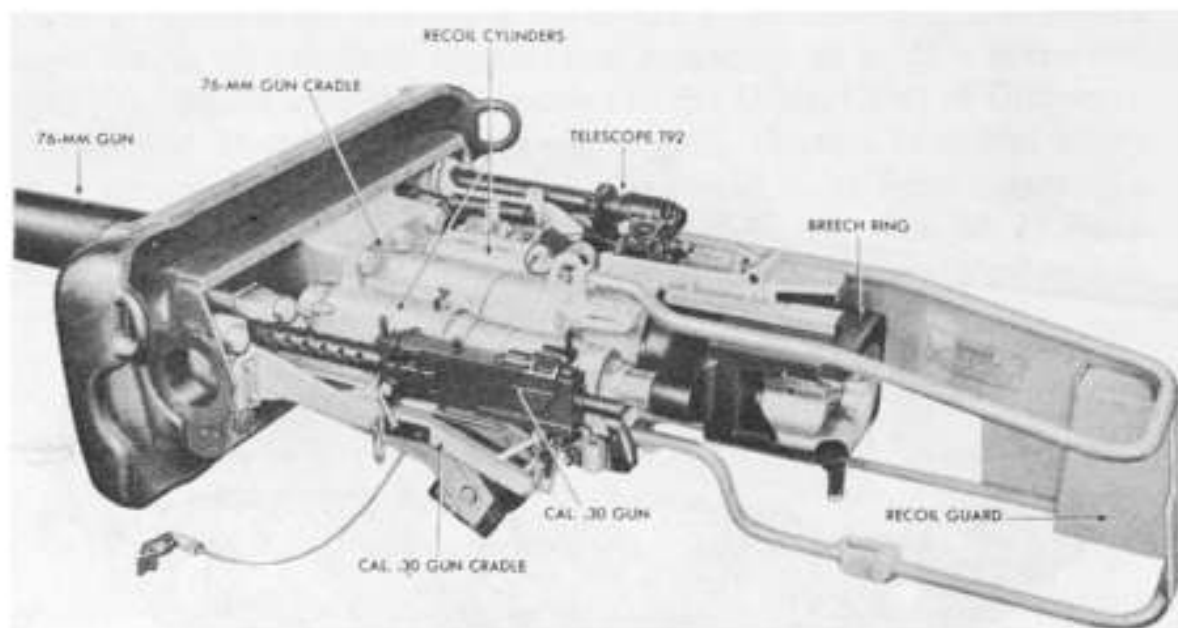
d. The M1 mount (fig. 3) is so constructed and attached as to permit the gun and mount to traverse as a unit with the turret. Recoil and counterrecoil are controlled by two hydrospring recoil cylinder assemblies mounted in the cradle on either side of the tube so as to be in the same plane as the breech ring and tube, 45 degrees from vertical.

e. The combination gun mount M62 (fig. 4) operates in conjunction with a stabilizer which holds the gun mount at a predetermined elevation while the vehicle is in motion. The M1 mount does not have this stabilizer control.



RA PD 92358

Figure 3. 76-mm gun M1A1C, mount M1—left rear view.



RA PD 86349

Figure 4. Combination gun mount M62 with guns and direct telescope—left rear view.