

RESTRICTED

TM 9-726

WAR DEPARTMENT

TECHNICAL MANUAL



LIGHT TANK M3

July 15, 1942

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 No. 9-726 }

WAR DEPARTMENT,
 WASHINGTON, July 15, 1942.

LIGHT TANK M3**CHAPTER 1: Operating instructions.**

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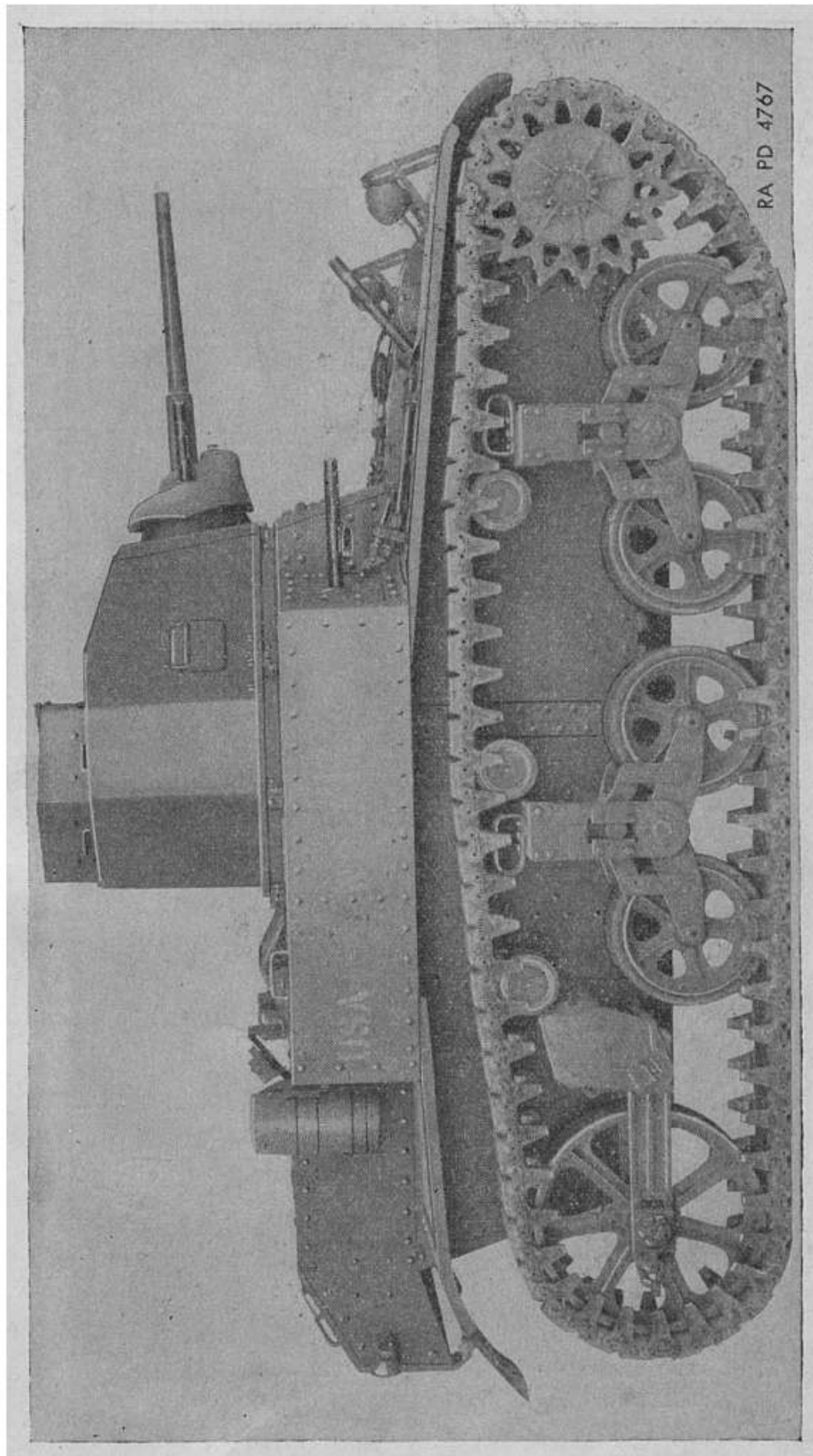
FIGURE 2.—Right side, light tank

CHAPTER 1

OPERATING INSTRUCTIONS

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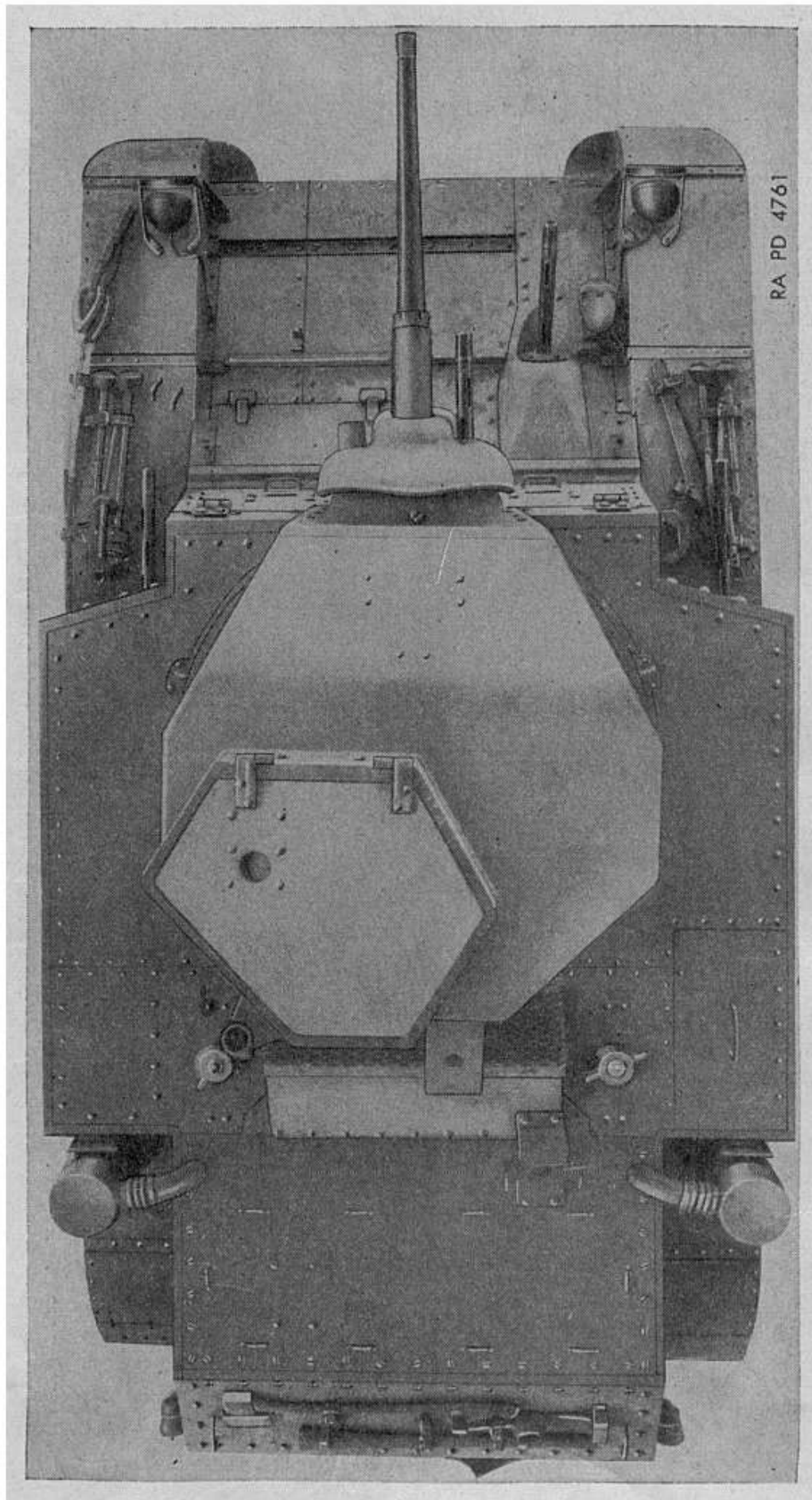
LIGHT TANK M3



RA PD 4767

FIGURE 2.—Right side, light tank M3.

LIGHT TANK M3



RA PD 4761

FIGURE 3.—Top view, light tank M3.

LIGHT TANK M3

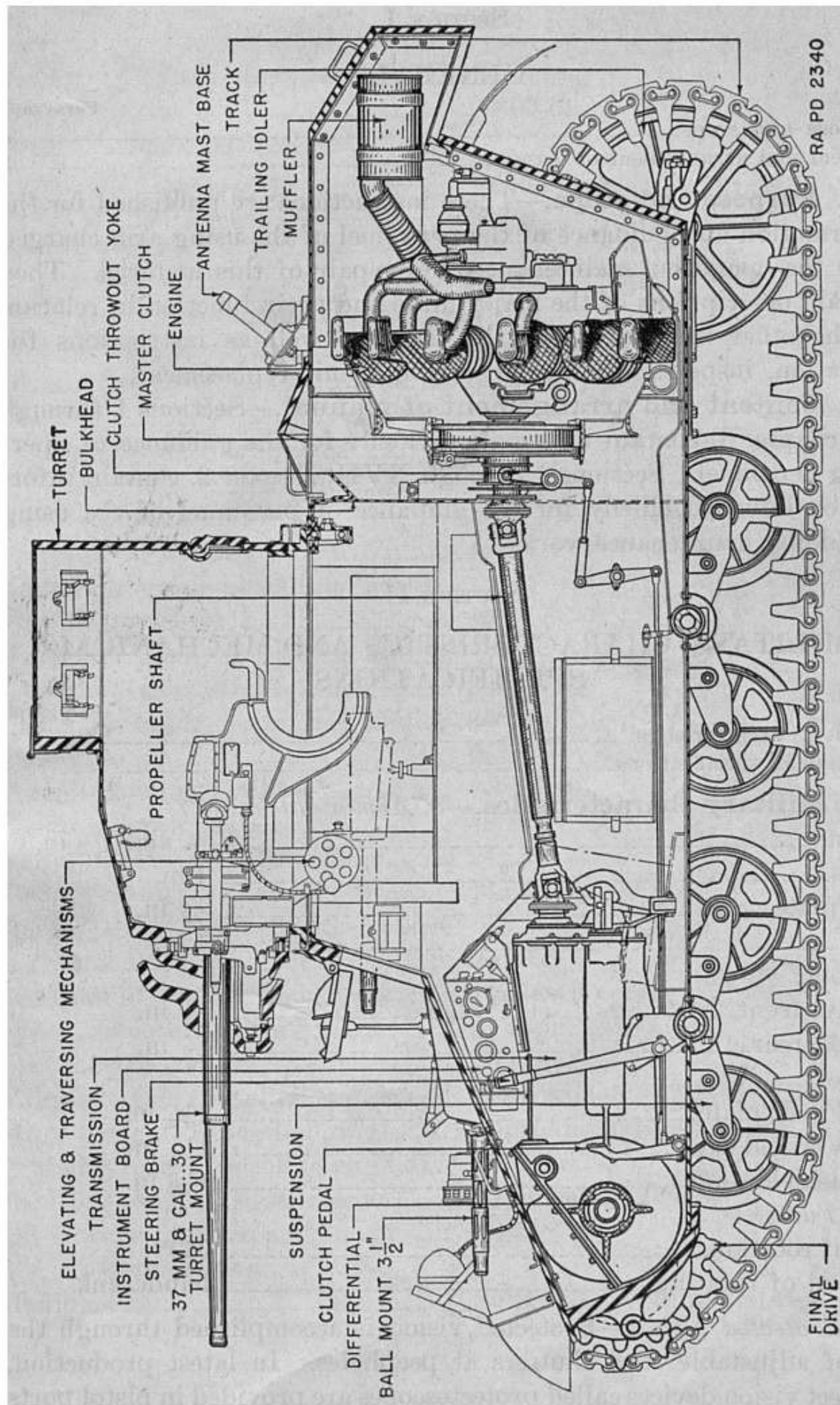


FIGURE 4.—Cross section, light tank M3.

SECTION I

GENERAL

	Paragraph
Purpose and scope.....	1
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1. Purpose and scope.—These instructions are published for the information and guidance of the personnel of the using arm charged with the operation, maintenance, and repair of this matériel. They contain descriptions of the major units and their function in relation to the other components of the tank, as well as instructions for operation, inspection, minor repair, and unit replacement.

2. Content and arrangement of manual.—Sections I through IX, chapter 1, contain information chiefly for the guidance of operating personnel. Sections I through XVII, chapter 2, contain information intended chiefly for the guidance of personnel of the using arm doing maintenance work.

SECTION II

MILITARY CHARACTERISTICS AND MECHANICAL SPECIFICATIONS

	Paragraph
Military characteristics.....	3
Mechanical specifications.....	4

3. Military characteristics.—*a. Armor thickness.*

Front.....	5/8 and 1½ in.
Sides.....	1 in.
Top plate.....	1½ in.
Rear.....	1 in.
Bottom:	
At front.....	1½ in.
At rear.....	1½ in.
Turret:	
Front plate.....	1½ in.
Vertical sides.....	1¼ in.
Windshield.....	1½ in.

b. Turret.

Arc of rotation.....	360°
Method of rotating.....	handcrank

c. Protected vision.—Protected vision is accomplished through the use of adjustable steel shutters at peepholes. In latest production, indirect vision devices called protectoscopes are provided in pistol ports and front doors.

d. General data.

Crew-----	4 men
Weight (without accessories, fuel, or crew)-----	25,600 lb.
Weight (with accessories, fuel, and crew)-----	28,000 lb.
Width over-all-----	88 in.
Length over-all-----	178 in.
Height over-all-----	104 in.
Tread (center to center of tracks) _	73 in.
Ground clearance-----	16½ in.
Ground pressure, on soft ground--	10.47 lb. per sq. in.
Track:	
Shoe width-----	7⅝ in.
Pitch-----	5½ in.

e. Performance.

Diameter of turning circle-----	42 ft.
Maximum grade-ascending ability (with grousers)-----	45°.
Maximum grade-ascending ability (without grousers)-----	30°.
Maximum grade-descending ability	30°.
Allowable list-----	22°.
Trench-crossing ability-----	6 to 7 ft.
Fording depth-----	40 in.
Maximum vertical obstacle-----	24 in.
Towing ability, drawbar pull-----	14,800 lbs.
Height of towing shackles above ground-----	20 in.
Location of towing shackles-----	1 at each corner of hull.
Speed, smooth roadway-----	31 mph.
Speed, cross country-----	20 mph.
Miles per gal. (gasoline engine)---	approximately 2 miles.
Miles per gal. (Diesel engine)-----	approximately 3½ miles.
Cruising range (gasoline engine)--	75 miles.
Cruising range (Diesel engine)-----	90 miles.
Oil storage tank capacity-----	6 gal.

f. Communication.

Radio-----	SCR 245—sending and receiving.
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Useful radius:

Moving:

Voice----- 15 miles.

Code----- 25 miles.

Stationary:

Voice----- 20 miles.

Code----- 45 miles.

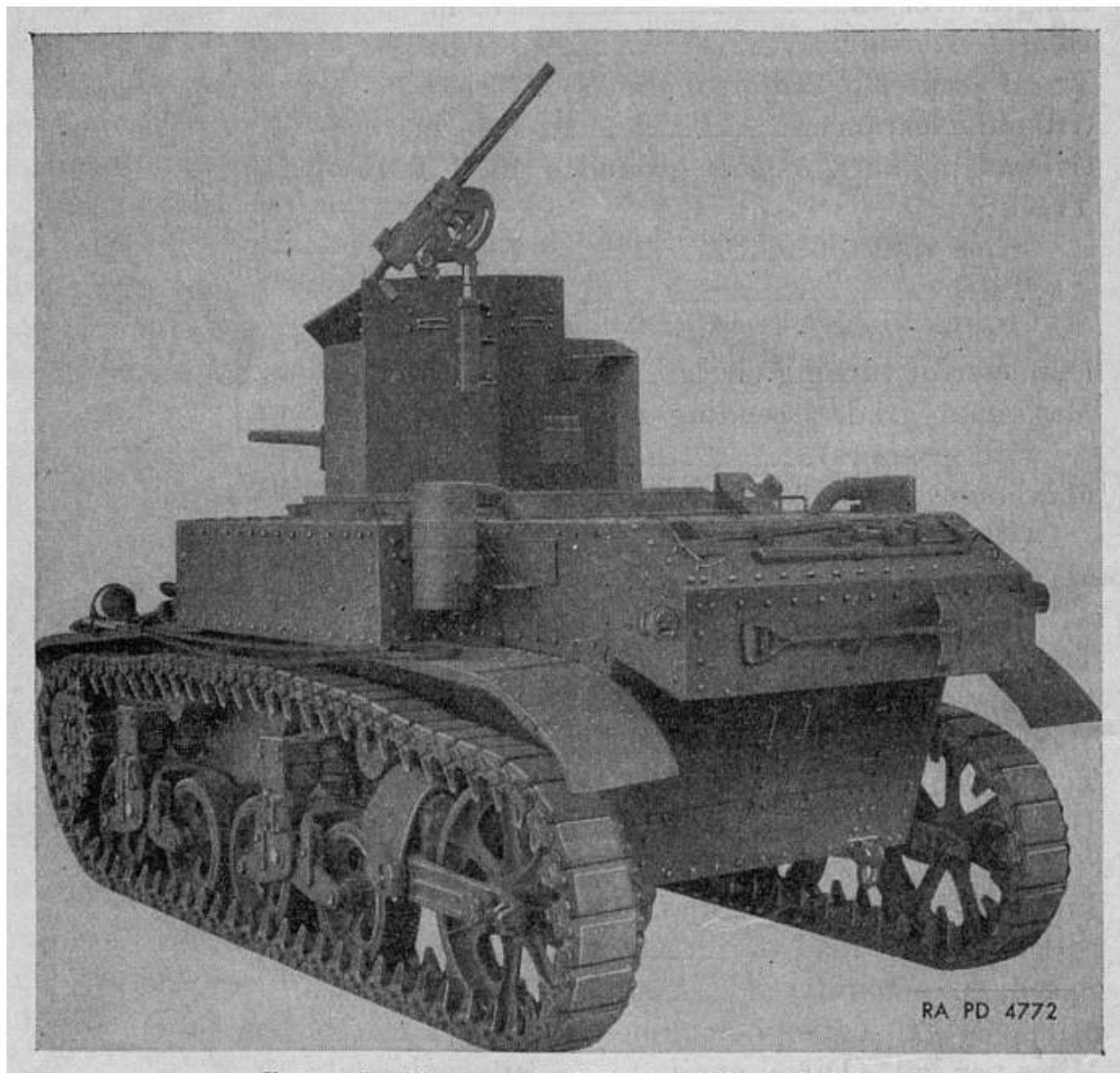


FIGURE 5.—Three-quarter left rear, light tank M3.

g. Armament.

- 1 37-mm gun and 1 cal. .30 machine gun mounted in a combination mount in the turret.
- 1 cal. .30 machine gun mounted in a ball mount in the bow.
- 1 cal. .30 machine gun mounted in a bracket mount, on the outside of the turret, for antiaircraft defense.
- 1 cal. .45 Thompson submachine gun.
- 2 cal. .30 machine guns mounted, one in each sponson.

h. Ammunition.

37-mm----- 103 rds., right and left side of crew compartment.
 Cal. .30----- 5,900 rds., right and left sponson stowage boxes.
 Cal. .30----- 700 rds., bow gunner stowage box; 1,670 rds., tunnel pocket ammunition racks.
 Cal. .45----- 500 rds. in tank.

4. Mechanical specifications.—a. Engine and accessories.—*(1) Gasoline engine.*

Number used----- 1.
 Make and type----- Continental Static Radial.
 Model and series----- W 670 Series 9A.
 Diameter (over-all)----- 42 $\frac{3}{8}$ in.
 Length (over-all)----- 32 in.
 Weight, with accessories----- 1,107 lbs.
 Horsepower----- 250 hp. at 2,400 rpm.
 Maximum engine speed----- 2,400 rpm.
 Number of cylinders----- 7.
 No. 1 cylinder location----- Top.
 Bore----- 5 $\frac{1}{8}$ in.
 Stroke----- 4 $\frac{5}{8}$ in.
 Firing order (clockwise, viewed at accessory case)----- 1-3-5-7-2-4-6.
 Piston displacement----- 667.86 cu. in.
 Compression ratio----- 6.1 to 1.
 Magneto: Number used----- 2.
 Make and model----- Scintilla, Model VMN7-DFA.
 Breaker point gap----- .012 in.
 Spring tension on breaker points-- 16 to 32 oz.
 Starter:
 Make----- Eclipse, Model EC 404-1-B.
 Type----- Electric.
 Spark plugs:
 Make and model----- BG 417-S, radio shielded.
 Gap----- 0.15 in.
 Valve tappet clearance, cold:
 Exhaust----- .010 in.
 Intake----- .010 in.

(2) Diesel engine.

Number used----- 1.
 Make and type----- Guiberson Radial Diesel.
 Model and series-- T-1020, Series 4.