

Regraded UNCLASSIFIED

WD Cir 205, 1946

TM 9-754

RESTRICTED

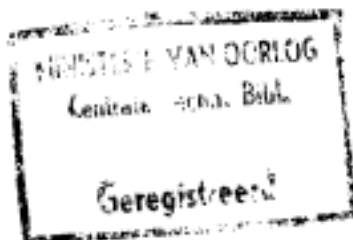
WAR DEPARTMENT

TECHNICAL MANUAL



MEDIUM TANK M4A4

JANUARY 21, 1943



RESTRICTED

TECHNICAL MANUAL }
 No. 9-754 }

WAR DEPARTMENT
 Washington, January 21, 1943

MEDIUM TANK M4A4

Prepared under the direction of the
 Chief of Ordnance

(with the cooperation of the Chrysler Corporation)

CONTENTS

PART ONE – Operating Instructions

SECTION		Paragraphs	Pages
	I. Introduction	1– 4	3–14
	II. Operation and controls.....	5–11	15–25
	III. Armament	12–14	26–30
	IV. Preventive maintenance	15–21	31–36
	V. Lubrication instructions for Medium Tank M4A4	22–25	37–42
	VI. Lubrication instructions for combina- tion Gun Mount M34.....	26–29	43–45
	VII. Care and preservation	30–31	46
	VIII. Tools and equipment on the vehicle	32–38	47–60
	IX. Operation under unusual conditions	39–41	61–63
	X. Materiel affected by gas.....	42–45	64–66

PART TWO – Organization Instructions

	XI. Organization maintenance	46	67–71
	XII. Tools and equipment	47	72–74
	XIII. Organization spare parts and accessories	48–49	75
	XIV. Power unit (Chrysler Tank Engine)	50–61	76–137

*This technical manual supersedes TM 9-754, August 29, 1942.

TM 9-754**MEDIUM TANK M4A4****PART TWO – Organization Instructions – (Cont.)**

	Paragraphs	Pages
SECTION XV. Power unit ignition system	62–69	138–153
XVI. Fuel system	70–82	154–192
XVII. Cooling system	83–91	193–230
XVIII. Clutch	92–95	231–255
XIX. Propeller shaft and universal joints	96–103	256–266
XX. Power train .	104–114	267–297
XXI. Suspensions and track	115–118	298–318
XXII. Hull and turret	119–125	319–324
XXIII. Electrical turret traversing system	126–137	325–354
XXIV. Stabilizer	138–159	355–380
XXV. Electrical system	160–186	381–452
XXVI. Auxiliary generating unit	187–190	453–460
XXVII. Painting	191–196	461–463
XXVIII. References	197–198	464–466
INDEX		467–479

PART ONE – Operating Instructions**Section I****INTRODUCTION**

	Paragraph
Scope	1
Characteristics	2
Differences among models	3
Data	4

1. SCOPE.

a. This manual is published for the information of the using arms and services.

b. In addition to a description of the Medium Tank M4A4 this manual contains technical information required for the identification, use, and care of the materiel.

c. Disassembly, assembly and such repairs as may be handled by using arm personnel may be undertaken only under the supervision of an officer or the chief mechanic.

d. In all cases where the nature of the 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.

e. This manual differs from TM 9-754, Medium Tank M4A4, August 29, 1942, as follows:

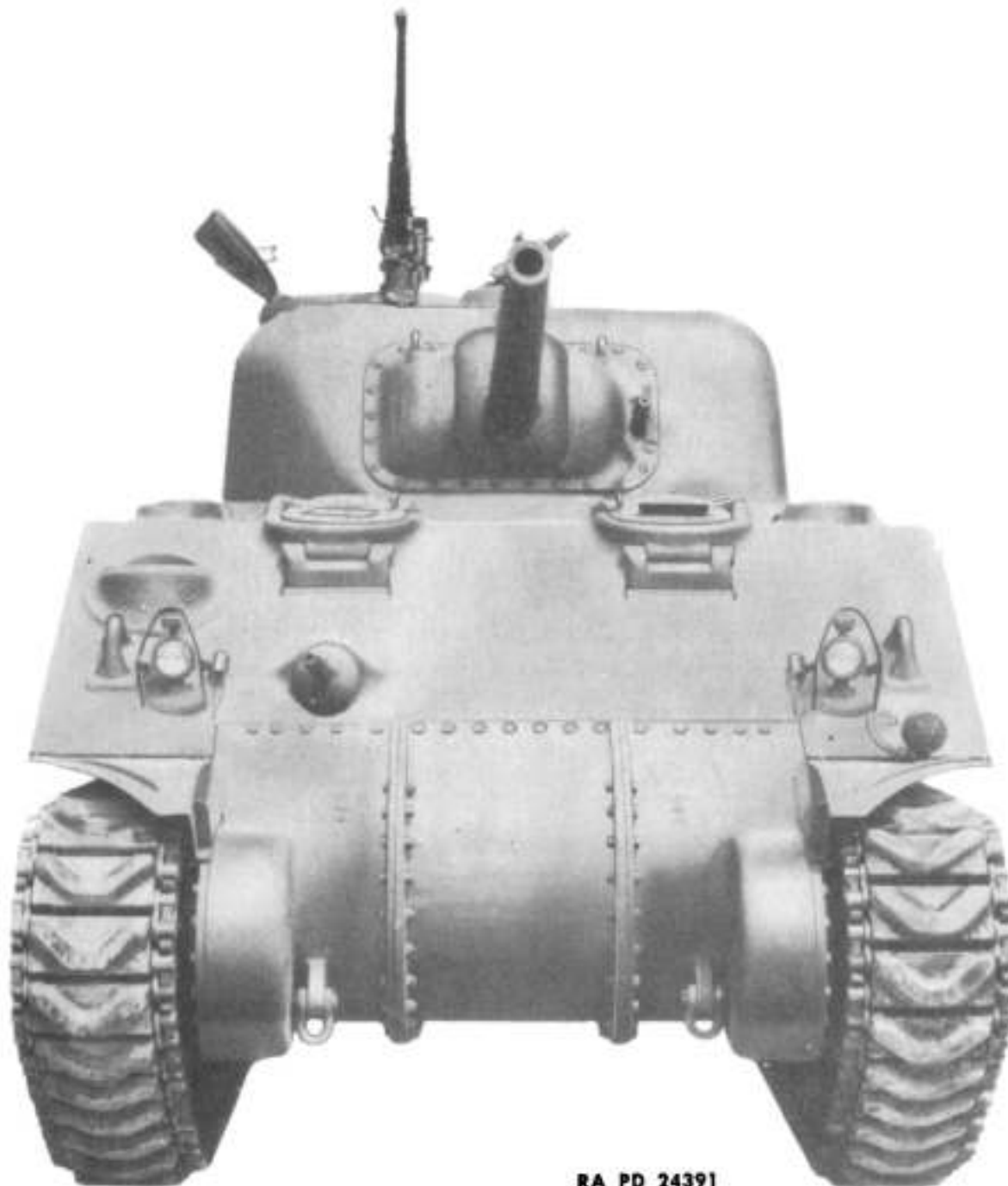
- (1) Preliminary illustrations, of various units have been replaced by revised illustrations. Additional illustrations have been added.
- (2) More detailed information pertaining to various units has been added.
- (3) New lubrication charts have been added and lubrication instructions have been revised.

2. CHARACTERISTICS.

a. The Medium Tank M4A4 is an armored, full track laying vehicle (figs. 1 through 8). The hull is of all-welded construction, and a cast turret is used which is identical with the turrets used on all M4 series tanks. The vehicle is powered by the "Chrysler Tank Engine" power unit, located in the rear of the hull. The vehicle serial number is

TM 9-754
2-3

MEDIUM TANK M4A4



RA PD 24391

Figure 1 – Front View – Medium Tank M4A4

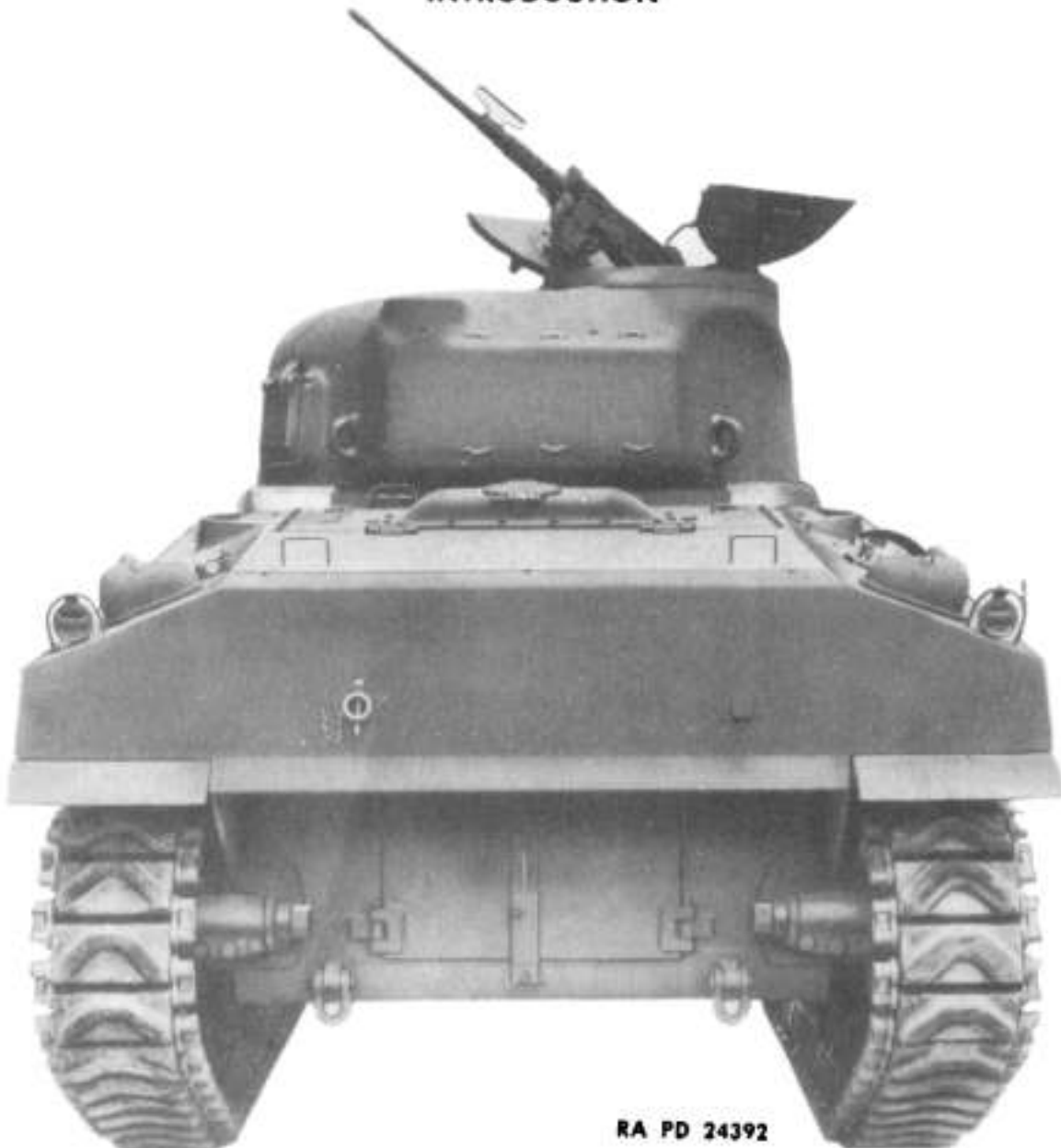
stamped on each boss (two front and two rear) to which the towing shackle is attached to hull. All references to serial numbers throughout this manual refer to this number.

3. DIFFERENCES AMONG MODELS.

a. Water Pump.

(1) **MULTIPLE WATER PUMPS**, mounted on the distributor end of each individual engine, were used in production from vehicle serial number 4805 to serial number 5803 (fig. 19).

INTRODUCTION



RA PD 24392

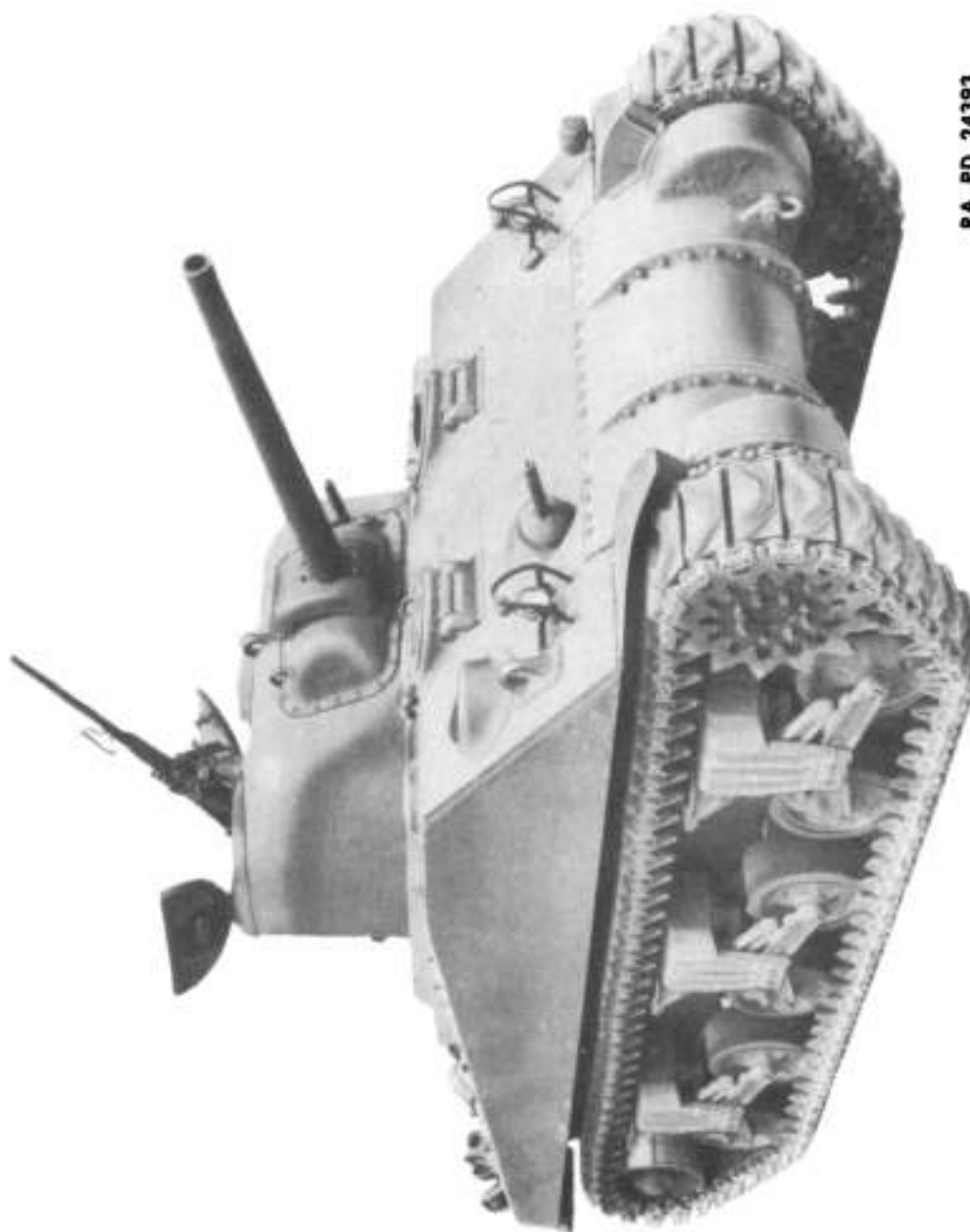
Figure 2 – Rear View – Medium Tank M4A4

(2) **SINGLE WATER PUMP**, mounted on the distributor end of the power unit crankcase, entered production at vehicle serial number 5804 (fig. 20).

b. Fuel Pump. The fuel pump, mounted on the distributor end of crankcase, was used in production from vehicle serial number 4805 to serial number 5803 (fig. 52). Beginning with vehicle serial number 5804, the fuel pump is mounted on the distributor end of No. 4 engine (fig. 53).

c. Generator. The generator, mounted between engines Nos. 1 and 2, was used in production from vehicle serial number 4805 to serial number 5803 (fig. 20). Beginning with vehicle serial number 5804, the generator is mounted in the fighting compartment (fig. 153).

MEDIUM TANK M4A4



RA PD 24393

Figure 3 — Three-quarter View — Right Front — Medium Tank M4A4

INTRODUCTION



Figure 4 – Three-quarter View – Left Front – Medium Tank M4A4

TM 9-754

3-4

MEDIUM TANK M4A4

d. Thermostats. Thermostats, of the Choke Type, were used in production from vehicle serial number 4805 to vehicle serial number 6204 and from vehicle serial number 16555 to serial number 17112 (par. 88). Beginning with vehicle serial number 17113 thermostats of the bypass type are used (par. 88).

e. Clutch. A clutch, of the fully enclosed type, was used in production from vehicle serial number 4805 to serial number 6204 and from serial number 16555 to serial number 17793 (fig. 65). The ventilated type of clutch entered production at vehicle serial number 17794.

f. Fuel Tank. A non-insulated type of fuel tank was used in M4A4 production from vehicle serial number 4805 to serial number 6204 and from serial number 16555 to serial number 17793. The insulated type of fuel tank entered production at vehicle serial number 17793 (par. 77).

4. DATA.**a. General.**

Starting vehicle serial number	4805
Weight with armament	approximately 66,000 lbs.
Over-all length	238.5 in.
Over-all height	107.5 in.
Over-all width	103 in.
Ground clearance	Front, 17 1/8 in. Rear, 19 1/8 in.
Tread (center to center of tracks)	83 in.

b. Power Unit.

Rated gross horsepower.....	445 at 2,400 rpm (prop. shaft speed)
Number of cylinders	30
Weight of power unit with accessories	5,375 lbs.

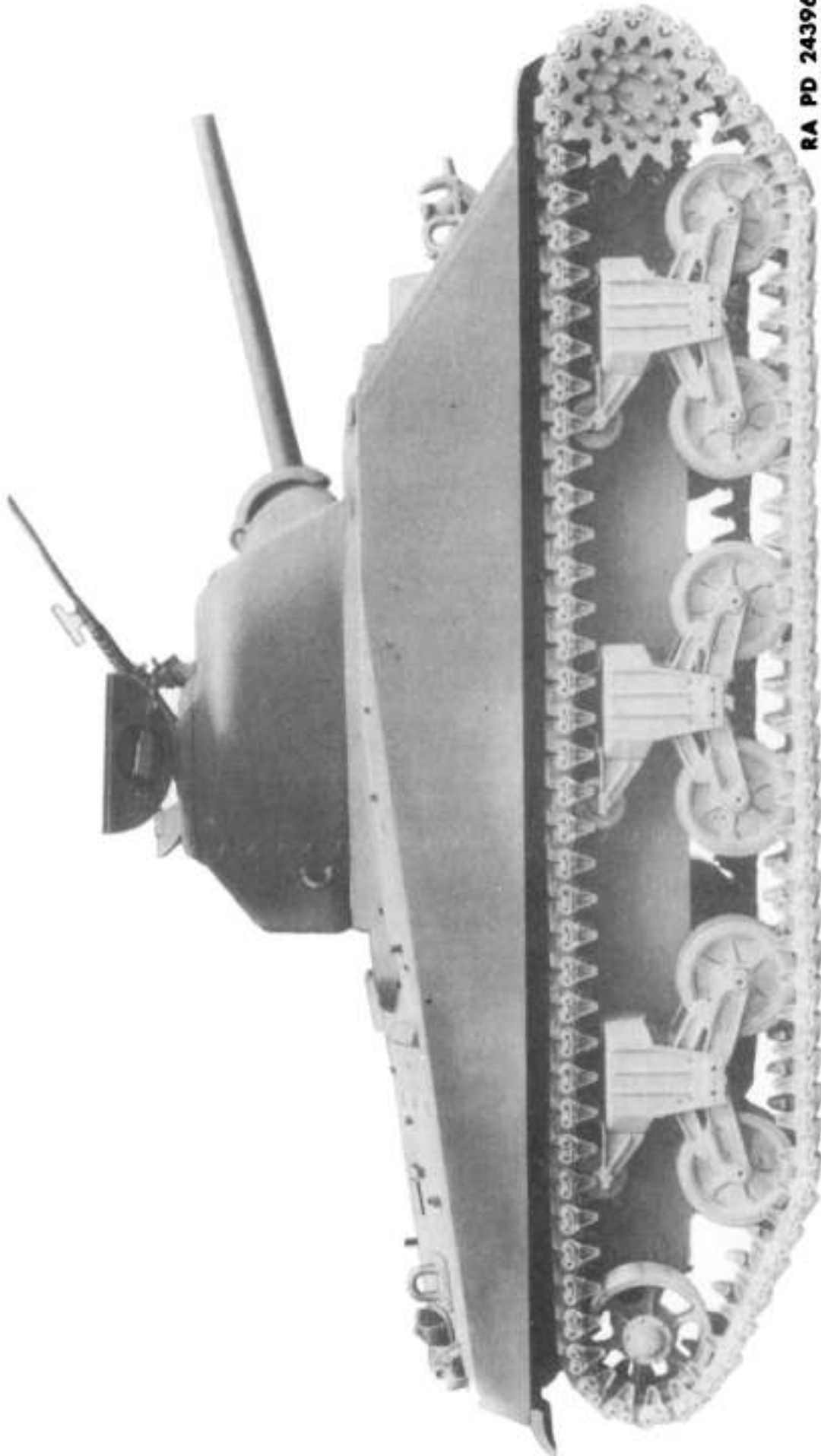
c. Cooling System.

Coolant (summer)	Water, plus rust resistor
Coolant (winter)	Prestone, and water
Capacity	32 gallons
Temperature	(minimum 145 F.) (maximum 235 F.)

d. Fuel and Oil.

Fuel capacity (main tanks, power unit)	160 gallons
Fuel capacity (auxiliary generating unit tank).....	5 1/2 gallons
Number of hours without refueling.....	8 hours at 20 mph
Octane rating of fuel	72-80
Oil consumption	100 mi. per gal.

INTRODUCTION



RA PD 24396

Figure 5 — Right Side — Medium Tank M4A4