

S E C R E T
HEADQUARTERS, 610TH TANK DESTROYER BN

DAS/r1

APO 403, U. S. Army
15 October 1944

TRAINING MEMORANDUM;

NUMBER 4; TABULATED DATA

1. 90 MM Gun M3

a. PRINCIPAL CHARACTERISTICS:

Weight of Gun -----2,260 lbs
Length of Gun -----186.15 in. (15.6 ft)
Muzzle Velocity Proj. APC M82 -----2,670 f/s
Muzzle Velocity Shell HE M71 -----2,700 f/s
Rate of fire -----15-20 rds per min
Elevation * -----10° to plus 20°
Traverse (Manual or hydraulic) -----360°
Rate of complete traverse -----15 to 20 seconds
Range permitted - Proj APC M82 * -----15,260 yds (8.7 miles)
Range permitted - Shell HE M71 * -----13,000 yds (7.4 miles)
Maximum ordinate (Range 19,560 yds) -----12,320 ft
Probable error varies from 27 yds range and 0 yds deflection at
range of 2500 yds to 131 yds range and 8 yds deflection at
range of 19,560 yds.
* By canting the carriage elevation and range can be increased
to 811 mls and 19560 yds.

2. SIGHTING AND FIRE CONTROL EQUIPMENT

- a. On carriage - Telescope T93E3 with Telescope Mount T92,
Instrument Lights M33 and M30, Azimuth Indicator M18,
Elevation Quadrant M9, and Periscope M6.
b. Off carriage -- Binocular M3, Aiming Post Light M14, and
Aiming Post M1.

3. AMMUNITION

TYPE	Wt of Projectile	Wt of Powder	Wt of Comp. Rd
Shell, HE, M71 with standard fuze	23.4 lb	7.31 lb	42.04 lbs
Projectile, APC M82	24.11 lb	7.31 lb	42.75 lbs

4. ARMOR PENETRATION - PROJECTILE APC M82

Range Yds	Striking Velocity f/s	Homogeneous 0° Obliquity	Plato 30° Obliquity	Face Hardened 0° Obliquity	Plato 30° Obliquity
500	2,530	5.9 in	4.7 in	6.4 in	5.0 in
1,000	2,410	5.5 in	4.4 in	6.0 in	4.6 in
2,000	2,170	4.7 in	3.8 in	5.2 in	4.0 in
3,000	1,940	4.0 in	3.2 in	4.4 in	3.4 in
4,000	1,720	3.4 in	2.7 in	3.7 in	2.8 in

5. 90 MM GUN MOTOR CARRIAGE M36

a. Principal Characteristics:

Weight -----62,000 lbs.	Main Armament -----90mm M3
Length -----20 ft, 2 in.	Ammunition (90mm) -----47 rds
Width -----10 ft, 0 in.	Add Armament -- 1 Cal 50 AA MG
Height -----8 ft, 11 in.	Fording Ability, w/o special preparation -----36 in
Track Width -----16 9/16 in.	Vertical Obstacle Ability -----24 in
Ground pressure -----12.7 lb/sq in.	Crow -----5
Max. frontal armor (basis) -----3 in to 3 3/4 in.	Speed, maximum -----23 MPH
Cruising Range Highway -----155 miles	Max. grade ascending ability -----50%
Cruising Range Cross Country -----110 miles	Max. width of ditch vehicle will cross -----7 ft, 6 in.
Minimum grade descending ability -----50%	

- b. Engine - Liquid cooled 8 cylinder V type 500 HP Model CA -
Weight -- 1,740 lbs.

c. Armor Thickness:

1. Hull -----
a. Front -----1 1/2 in.
b. Side -----3/4 in to 1 in.
c. Top bottom & rear -----1/2 in to 3/4 in.
2. Turret -----
a. Gun shield (cast) -----3 in.
b. Side -----1 1/4 in.
c. Trunnion sup. -----2 7/8 in.

d. Fuel and Oil Capacities,

Engine Oil pan ----- 32 qts
 Bower train (diff & fluid drive)----- 172 qts
 Cooling system ----- 17 qts
 Fuel (all 4 tanks) ----- 192 gals
 Fuel Rating ----- 80 Octane or higher
 Fuel consumption ----- $1\frac{1}{4}$ gal per mile
 Types of Lubricates (dependent on temperature ---SAE 30, SAE 10,
 oil hydraulic.

6. LOGISTICS

1. Fuel Consumption:

a. Gallons of Gas to move Battalion one mile;

Hq Co (42 vehicles) ----- 6.5 gals
 A Co (36 vehicles) ----- 21 gals
 B Co (same) ----- 21 gals
 C Co (same) ----- 21 gals
 Recon Co (34 vehicles) ----- 5.5 gals
 Battalion (160 vehicles) ----- 75 gals

- b. Total gasoline capacity (with all full tanks)-----11,500 gals.
 c. Oil consumption varies from 2% (lighter vehicle) to plus 5%
 (Heavier vehicles) of that of gas.

2. Basic Load ---- Ammunition;

- a. With Company ----- 744 rds (90mm)
 (includes M10 trailer with 80 rds)
 b. With Battalion trains ----- 600 rds (90mm)
 c. Battalion Total -----2832 rds

3. TIME LENGTH -- ROAD MARCH -- (60 yds interval between vehicles).

	Column Length	10 mph	15 mph	20 mph
Gun Company (28 vehicles) -----	1900 yds	7 min	$5\frac{1}{4}$ min	$3\frac{1}{2}$ min
Recon Co (34 vehicles) -----	2150 yds	8 min	6 min	4 min
CP Gp (13 vehicles) -----	825 yds	3 min	$2\frac{1}{4}$ min	$1\frac{1}{2}$ min
Rear Echelon (29 vehicles) -----	1900 yds	7 min	$5\frac{1}{4}$ min	$3\frac{1}{2}$ min
Bn (5 min interval tail to head each serial -----	13 miles	78 min	$59\frac{1}{2}$ min	39 min
Bn (10 min interval head to head each serial -----	10 miles	60 min	45 min	30 min
Battalion (Blackout - 5 min, close interval, head to head -----	4.5 miles	27 min		

By order of Major JEFFERY:

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OFFICIAL:

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REPRODUCED BY 610 TD BN, 15 December 1944