

Training and Evaluation Outline Report

Status: Approved

05 Aug 2022

Effective Date: 05 Aug 2022

Task Number: 17-CW-5695

Task Title: Boresight a M1A2 Sep Tank with a Muzzle Boresight Device - Crew

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD1 - This training product has been reviewed by the training developers in coordination with the MCoE G2 foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary	Source Information
	TM 9-2350-388-10-1	OPERATOR MANUAL FOR TANK, COMBAT, FULL-TRACKED: 120 MM GUN, M1A2 SYSTEM ENHANCEMENT PACKAGE VERSION 2 (SEPV2) NSN 2350-01-328-5964 (EIC AAF) GENERAL ABRAMS VOLUME 1 OF 4	Yes	No	
	TM 9-2350-388-10-2	OPERATOR MANUAL FOR TANK, COMBAT, FULL-TRACKED: 120 MM GUN, M1A2 SYSTEM ENHANCEMENT PACKAGE VERSION 2 (SEPV2) NSN 2350-01-328-5964 (EIC AAF) GENERAL ABRAMS VOLUME 2 OF 4	Yes	No	
	TM 9-2350-388-10-3	OPERATOR MANUAL FOR TANK, COMBAT, FULL-TRACKED: 120 MM GUN, M1A2 SYSTEM ENHANCEMENT PACKAGE VERSION 2 (SEPV2) NSN 2350-01-328-5964 (EIC AAF) GENERAL ABRAMS VOLUME 3 OF 4	Yes	Yes	
	TM 9-2350-388-10-4	OPERATOR MANUAL FOR TANK, COMBAT, FULL-TRACKED: 120 MM GUN, M1A2 SYSTEM ENHANCEMENT PACKAGE VERSION 2 (SEPV2) NSN 2350-01-328-5964 (EIC AAF) GENERAL ABRAMS VOLUME 4 OF 4	Yes	No	

Conditions: The crew is conducting operations in a live training environment as part of a platoon or larger force on an M1A2 SEP tank. The Tank is in an assembly area preparing for a combat mission and the crew is ordered to boresight the M1A2 SEP tank. The crew have an M27A1, M27A2, or an M27A3 muzzle boresight device (MBD), a full crew, TM 9-2350-388-10-3, and a boresight panel placed at 1,200 meters. All preventive maintenance checks and services (PMCS) and prepare-to-fire checks have been completed. All weapons are clear. All armament accuracy checks have been completed according to FM 3-20.21.

Dynamic Operational Environment: Three or more operational and two or more mission variables change during the execution of the assessed task.

Single Threat: Regular, irregular, criminal, or terrorist forces. This task should not be trained in MOPP 4.

Standards: The crew boresights the M1A2 SEP weapon systems to the same target aiming point according to TM 9-2350-388-10-3 and unit SOP. All safety procedures are followed and there are no injuries or damage to personnel or equipment.

The crew has 1 of 1 (75%) of the crew leaders and 80% of the Soldiers present at training against the crew's authorized strength. The crew attains 80% on performance measures, 100% on critical performance measures, and 85% on leader performance measures achieving a fully trained (T) rating.

Note: The tank leader is tank commander (TC).

Live Fire: No

Objective Task Evaluation Criteria Matrix:

Plan and Prepare		Execute					Evaluate			
Operational Environment	Training Environment (L/V/C)	% Leaders present at training/authorized	% Present at training/authorized	External evaluation	Performance measures	Critical performance measures	Leader performance measures	Evaluator's observed task proficiency rating	Commander's assessment	
SQD & PLT										
Dynamic (Single Threat)	Night	A live training environment is required for external evaluation of this task and to achieve a T task assessment. The constructive training environment can be used to replicate non-available enablers.	$\geq 75\%$	$\geq 80\%$	Yes	$\geq 80\%$ GO	All	$\geq 85\%$ GO	T	T
Static (Single Threat)	Day		60-74%	60-79%	No	$< 65\%$ GO	$< All$	$\leq 74\%$ GO	P	P
			$\leq 59\%$	$\leq 59\%$					U	U

Remarks: None

Notes: All boresighting of the main gun and fire control system should be done in the order given in TM 9-2350-388-10-3. Complete all boresight tasks in order with a minimum of delay between tasks. Procedures for M27A1 MBD or M27A2 MBD are different from procedures for M27A3 MBD. Ensure MBD type is correctly identified prior to conducting boresight.

Safety Risk: Low

Task Statements

Cue: Your M1A2 SEP tank is in an assembly area preparing for a combat mission.

DANGER

None

WARNING

To avoid possible death or serious injury to the loader, the tank commander must ensure that the loader remains a safe distance away from gun tube when not actively participating in boresighting.

Tank gun tubes which have fired Depleted Uranium (DU) ammunition may have DU residue on the inside surfaces which can contaminate boresight device and personnel. This contamination may be both removable, and fixed (remaining for the life of the gun tube). If you suspect, or are unsure if gun tube has fired DU ammunition, treat as if it is contaminated, and ensure gun tube is properly cleaned to eliminate any possible removable contamination.

CAUTION

Never hold the optical unit eyepiece while turning the operating handle. Damage to the equipment could occur. Rotating the MBD inside the gun tube may damage the gun or leave the device improperly aligned. Do not superimpose TIS reticle over GPS reticle. TIS reticle will not be accurate.

Performance Steps and Measures

NOTE: Assess task proficiency using the task evaluation criteria matrix.

NOTE: Asterisks (*) indicate leader steps; plus signs (+) indicate critical steps.

STEP/MEASURE

GO	NO-GO	N/A
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Plan

1. The crew gains and maintains situational understanding using available communications equipment, maps, intelligence summaries, situation reports, and other available information sources.

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Prepare

- * 2. The tank commander (TC) prepares the vehicle and crew and takes the following actions:
 - a. TC makes sure the crew has the current edition of TM 9-2350-388-10-3.
 - b. Supervises subordinates and equipment preparations.
 - c. Finalizes coordination and support, as required.

Execute

- + 3. The crew execute boresighting the main gun by doing the following:
 - a. Select a boresight target with a clearly defined right angle on the upper left hand corner to be used as the aiming point as close to 1200m away as possible.
 - b. Boresight the Gunner's Primary Sight (GPS).
 - c. Boresight the Commander's Independent Thermal Viewer (CITV).
 - d. Boresight the Gunner's Auxiliary Sight (GAS).
 - e. Boresight the Thermal Imaging System (TIS).
 - f. Boresight the Muzzle Reference Sensor (MRS).
 - g. Calibrate GAS for SABOT and MPAT.
- 4. Identify the model of the Muzzle Boresight Device (MBD) and use appropriate procedures according to TM 9-2350-388-10-3.
- 5. Complete all steps in sequence according to TM 9-2350-388-10-3.

Assess

- * 6. The TC assesses and verifies boresight data.
- 7. The crew reports status to higher HQ and continues operations as directed.

Task Performance Summary Block										
Training Unit			ITERATION							
			1		2		3		4	
Date of Training per Iteration:										
Day or Night Training:			Day / Night		Day / Night		Day / Night		Day / Night	
			#	%	#	%	#	%	#	%
Total Leaders Authorized		% Leaders Present								
Total Soldiers Authorized		% Soldiers Present								
Total Number of Performance Measures		% Performance Measures 'GO'								
Total Number of Critical Performance Measures		% Critical Performance Measures 'GO'								
Live Fire, Total Number of Critical Performance Measures		% Critical Performance Measures 'GO'								
Total Number of Leader Performance Measures		% Leader Performance Measures 'GO'								
MOPP LEVEL										
Evaluated Rating per Iteration T, P, U										

Mission(s) supported: None

MOPP 4: Never

MOPP 4 Statement: None

NVG: Never

NVG Statement: None

Prerequisite Collective Task(s): None

Supporting Collective Task(s): None

OPFOR Task(s):

Task Number	Title	Status
71-CO-8510	OPFOR Disrupt	Approved

Supporting Individual Task(s):

Step Number	Task Number	Title	Proponent	Status
	091-91A-0048	Borescope the 120 MM Main Gun on the M1 Series Track Vehicle	091 - Ordnance (Individual)	Approved
	171-126-0854	Supervise Proofing Team Activities	171 - Armor (Individual)	Approved
	171-138-0018	Communicate the Engagement of Targets from an M1A2 SEP Tank	171 - Armor (Individual)	Approved
	171-150-0001	Operate Intercommunications Set AN/VIC-3(V) on an M1 Series Tank	171 - Armor (Individual)	Approved
	171-19K-1020	Drive an M1A2 SEP Tank	171 - Armor (Individual)	Approved
	171-19K-2200	Prepare the Gunner's Station for Operation on an M1A2 SEP Tank	171 - Armor (Individual)	Approved
	171-19K-2210	Boresight the M1A2 SEP Tank	171 - Armor (Individual)	Approved

Supporting Drill(s): None

Supported AUTL/UJTL Task(s):

Task ID	Title
ART 4.1.1.1	Perform Preventative Maintenance Checks and Services

TADSS

TADSS ID	Title	Product Type	Quantity
GTA 17-06-054	Boresight the M1A2 Sep Tank	GTA	1
PGT - M1A2	Platoon Gunnery Trainer M1A2 COFT (Local TADSS – Not in TSMATS/PAM 25-30)	DVC	1

Equipment (LIN)

LIN	Nomenclature	Qty
No equipment specified		

Materiel Items (NSN)

NSN	LIN	Title	Qty
No materiel items specified			

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card. .

Safety: In a training environment, leaders must perform a risk assessment in accordance with current Risk Management Doctrine. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW current CBRN doctrine. .