

**Operate the M203/M320 Grenade Launchers**  
**071-SAWE17 / Version 1.0**  
**Effective Date 08 Mar 2013**

**SECTION I. ADMINISTRATIVE DATA**

<b>All Courses Including This Lesson</b>	<u>Course Number</u>	<u>Version</u>	<u>Course Title</u>
	None		
<b>Task(s) Taught(*) or Supported</b>	<u>Task Number</u>	<u>Task Title</u>	
	<b><u>Individual</u></b>		
	071-032-0008 (*)	Engage Targets with an M203 Grenade Launcher Using a Night Vision Sight, AN/PSQ-18A	
	071-032-0009 (*)	Mount a Night Vision Sight, AN/PSQ-18A, on an M203 Grenade Launcher	
	071-031-0001 (*)	Engage Targets with an M320 Grenade Launcher	
	071-031-0002 (*)	Load an M320 Grenade Launcher	
	071-031-0003 (*)	Unload an M320 Grenade Launcher	
	071-031-0004 (*)	Maintain an M320 Grenade Launcher	
	071-031-0005 (*)	Zero an M320 Grenade Launcher	
	071-COM-2126 (*)	Perform a Function Check on an M203 Grenade Launcher	
	071-COM-2127 (*)	Load an M203 Grenade Launcher	
	071-COM-2128 (*)	Unload an M203 Grenade Launcher	
	071-COM-2103 (*)	Zero an M203 Grenade Launcher	
	071-COM-2130 (*)	Engage Targets with an M203 Grenade Launcher	
	071-COM-2129 (*)	Correct Malfunctions of an M203 Grenade Launcher	
	071-COM-2125 (*)	Maintain an M203 Grenade Launcher	
	<b><u>Collective</u></b>		
	07-3-9013	Conduct Action on Contact	
	07-3-1333	Knock Out a Bunker	
	07-3-9018	Enter and Clear a Building (Section-Platoon)	
	07-3-9021	Clear a Trench Line	
	07-2-9003	Conduct a Defense (Platoon-Company)	
	07-3-1072	Conduct a Disengagement (Section-Platoon)	
	07-2-9008	Conduct a Raid (Platoon-Company)	
<b>Reinforced Task(s)</b>	<u>Task Number</u>	<u>Task Title</u>	
	None		

**Knowledge**

<u>Knowledge Id</u>	<u>Title</u>	<u>Taught</u>	<u>Required</u>
071-OPN-0015	Safety Procedures	No	Yes
071-OPN-0016	Inspection Techniques	Yes	No
071-WPN-0002	Demonstrate Knowledge of Boresight Procedures	Yes	No
071-WPN-0003	Demonstrate Knowledge of Ammunition Capabilities	Yes	No
071-WPN-0059	Identity and Location of Parts of Infantry Weapons	Yes	No
071-WPN-0060	Weapons Assembly and Disassembly	Yes	No
071-WPN-0061	Weapons Maintenance	Yes	No
071-WPN-0062	Infantry Weapons Ammunition	Yes	No
071-WPN-0063	Weapons Functions	Yes	No
071-WPN-0064	Target Detection Techniques	No	Yes
071-WPN-0065	Range Estimation Techniques	No	Yes
071-WPN-0066	Theory and Operation of Night Vision Devices	Yes	No
071-WPN-0069	Zeroing Techniques	Yes	No
071-WPN-0071	Misfire Procedures	Yes	No
071-WPN-0080	Weapon Capabilities	Yes	No
071-WPN-0085	Methods of Determining Width and Depth of a Target	No	Yes

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**Skill**

<u>Skill Id</u>	<u>Title</u>	<u>Taught</u>	<u>Required</u>
071-WPN-0006	Clear Infantry Weapons	Yes	No
071-WPN-0024	Follow Safety Procedures	No	Yes
071-WPN-0004	Identify Types of Ammunition	Yes	No
071-WPN-0029	Maintain Infantry Weapons	Yes	No
071-WPN-0012	Remove Parts	Yes	No
071-WPN-0016	Identify Unserviceable Parts	Yes	No
071-WPN-0019	Identify Unserviceable Ammunition	Yes	No
071-WPN-0013	Assemble Parts	Yes	No
071-WPN-0020	Clean Ammunition	Yes	No
071-WPN-0008	Correct Weapons Malfunctions	Yes	No
071-WPN-0011	Identify Operational Parts	Yes	No
071-WPN-0033	Load and Unload Infantry Weapons	Yes	No
071-WPN-0025	Mount Night Vision Devices to Infantry Weapons	Yes	No
071-WPN-0010	Perform a Function Check on Infantry Weapons	Yes	No
071-WPN-0036	Perform Misfire Procedures	Yes	No
071-WPN-0014	Use Cleaning Materials	Yes	No
071-WPN-0009	Zero Infantry Weapons	Yes	No
071-WPN-0027	Zero Night Vision Devices to Infantry Weapons	Yes	No
071-WPN-0005	Ability to Load and Unload Infantry Weapons	Yes	No
071-WPN-0022	Detect Targets	No	Yes
071-WPN-0007	Detect Weapon Malfunctions	Yes	No
071-WPN-0023	Engage Targets with Infantry Weapons	Yes	No

**Administrative/  
Academic  
Hours**

The administrative/academic hours required to teach this lesson are as follows:

<u>Academic</u>	<u>Resident Hours / Methods</u>		
Yes	0 hrs	10 mins	Lecture
Yes	3 hrs	15 mins	Conference/Demonstration
Yes	19 hrs	10 mins	Practical Exercise (Hands-On)
Yes	0 hrs	0 mins	Test Review
Yes	0 hrs	0 mins	Test
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Total Hours:	22 hrs	35 mins	

**Test Lesson Number**

Hours

Lesson Number

None

**Prerequisite Lesson(s)**

Lesson Number

Lesson Title

None

**Training Material Classification**

Security Level: This course/lesson will present information that has a Security Classification of: U - Unclassified.

**Foreign Disclosure Restrictions**

FD7. This product/publication has been reviewed by the training/educational developers in coordination with the DOTD, MCoE, Ft Benning, GA 31905 FD authority. This product is NOT releasable to students from foreign countries.

**References**

<u>Number</u>	<u>Title</u>	<u>Date</u>	<u>Additional Information</u>
FM 5-19	COMPOSITE RISK MANAGEMENT	21 Aug 2006	
TM 3-22.31	40-MM Grenade Launchers	17 Nov 2010	
TM 9-1010-221-10	OPERATORS MANUAL FOR GRENADE LAUNCHER, 40-MM: M203 (NSN 1010-00-179- 6447);GRENADE LAUNCHER, 40-MM: M203A1 (1010-01-434-9028);HEADQUARTERS , DEPARTMENT OF THE ARMY, AIR FORCE, MARINE CORPS, AND NAVY (TO	01 Aug 2001	
TM 9-1010-232-10	OPERATOR'S MANUAL FOR GRENADE LAUNCHER, 40 MM, M320, W/E (NSN 1010-01-566-9083) GRENADE LAUNCHER, 40 MM, M320A1, W/E (1010-01-557-2542)	28 Nov 2008	

**Student Study Assignment**

NONE.

**Instructor Requirements**

Complete a risk management worksheet. It is recommended that you use the ground risk assessment tools provided by the US ARMY COMBAT READINESS/SAFETY CENTER at [https://grat.safety.army.mil/ako\\_auth/grat/default.aspx](https://grat.safety.army.mil/ako_auth/grat/default.aspx)

**Additional Support Personnel Requirements**

<u>Name</u>	<u>Student Ratio</u>	<u>Qty</u>	<u>Man Hours</u>
Range Safety Officer	1:32		
Medic	1:32		
Ammunition NCO	1:32		
Combat Lifesaver	1:16		
Driver, FLA	1:32		
Driver, LMTV	1:12		
Range NCOIC	1:32		
Range OIC	1:32		

**Equipment  
Required  
for Instruction**

<u>ID - Name</u>	<u>Student Ratio</u>	<u>Instructor Ratio</u>	<u>Spt</u>	<u>Qty</u>	<u>Exp</u>
1005-01-231-0973 - CARBINE,5.56 MILLIMETER	1:2	0:0	No	0	No
1005-01-561-7200 - Magazine, Cartridge	1:2	0:0	No	0	No
1010-01-524-9010 - Launcher, Grenade, Rifle, M203-40mm	1:2	0:0	No	0	No
1010-01-557-2542 - Launcher Grenade: M320A1	1:2	0:0	No	0	No
2310-01-380-8225 - Truck Ambulance: 4 Litter Armored 4x4 W/E (HMMWV): M997A2	1:32	0:0	No	0	No
2330-01-108-7367 - Trailer Water: M149A2	1:32	0:0	No	0	No
4110-01-485-3548 - CHEST,ICE STORAGE	2:32	0:0	No	0	No
5820-01-451-8252 - Radio Set: AN/PRC-119F(C)	0:0	0:0	No	2	No
5855-01-432-0524 - Monocular Night Vision Device: AN/PVS-14	1:1	1:1	No	0	No
5860-01-471-2091 - BORELIGHT SYSTEM,LASER	1:2	0:0	No	0	No
6135-00-985-7845 - Battery, Nonrechargeable, AA	2:32	0:0	No	0	No
6135-01-036-3495 - BATTERY,NONRECHARGEABLE	0:0	0:0	No	2	No
6135-01-522-6679 - Battery Assembly, Airbase Protection Force, Flashlight Models A2, C2, C3, E2d, G2, L2, L4, L5, M3, M4, U2, X200A	1:2	0:0	No	0	Yes
6260-01-178-5559 - LIGHT,CHEMILUMINESCENT	0:0	0:0	No	2	Yes
6515-00-137-6345 - Plug Ear Universal Size 400S	1:1	1:1	No	0	No
6515-01-472-1863 - INTRAVENOUS INJECTION SET	1:16	0:0	No	0	No
6515-01-541-8147 - SUPPORT,CERVICAL	1:32	0:0	No	0	No
6530-01-290-9964 - Litter, Folding, Rigid Pole	1:32	0:0	No	0	No
6545-01-505-1170 - Medical Equipment Set, Combat Lifesaver	1:16	0:0	No	0	No
6545-01-539-6448 - Bag, Medical Aid	1:32	0:0	No	0	No
6685-01-590-1047 - Monitor, Heat Stress: Questemp 44	1:32	0:0	No	0	No
6730-01-C02-3126 - Projector: Proxima M2+	1:32	0:0	No	0	No
6760-00-985-6749 - Tripod, Photographic	1:32	0:0	No	0	No
7021-01-546-1532 - COMPUTER,LAPTOP	1:32	0:0	No	0	No
7110-00-T81-1805 - BOARD, DRY ERASE	1:32	0:0	No	0	No

7210-00-081-1417 - Sheet, Bed Cotton White	12:16	0:0	No	0	No
7520-00-053-9580 - Pen, Ball-Point, Medium, Black	1:8	0:0	No	1	No
7520-01-365-6126 - Marker Assortment, Tube Type, Dry Erase, 12 Pens, Eraser, Cleaner, Case	1:32	0:0	No	0	No
8960-01-430-4378 - ICE	2:32	0:0	No	0	Yes
9150-01-079-6124 - CLEANER, LUBRICANT AND PRESERVATI	1:8	0:0	No	0	No
AVPRJ-PRJ-PTFP - SCREEN PROJECTOR	1:32	0:0	No	0	No
Z40430 - TRUCK, CARGO, 4X4, LMTV	1:12	0:0	No	0	No

(Note: Asterisk before ID indicates a TADSS.)

**Materials Required**

*Instructor Materials:*

TM 3-22.31 40-MM GRENADE LAUNCHERS (INCL C1)

TM 9-1010-221-10 Operators Manual M203

TM 9-1010-232-10 Operators Manual M320

*Student Materials:*

Note taking material.

Field Uniform.

**Classroom, Training Area, and Range Requirements**

<u>ID - Name</u>	<u>Quantity</u>	<u>Student Ratio</u>	<u>Setup Mins</u>	<u>Cleanup Mins</u>
17884 Range, Grenade Launcher		1:32	15	15
17999 Training Area, Field		1:32	15	15
17120-M-1600-40 Classroom, Multipurpose, 1600 Square Feet, 40 Students		1:32	15	15

**Ammunition Requirements**

<u>DODIC - Name</u>	<u>Exp</u>	<u>Student Ratio</u>	<u>Instruct Ratio</u>	<u>Spt Qty</u>
B472 - Dummy Cartridge, 40 Millimeter, M25 F/L60	N	1:2		
B519 - Cartridge, 40 Millimeter	Y	24:1		
B546 - Cartridge, 40 Millimeter	Y	3:1		

**Instructional  
Guidance**

**NOTE:** Before presenting this lesson, instructors must thoroughly prepare by studying this lesson and identified reference material.

Before presenting this lesson:

1. Have on hand identified reference material linked to the lesson plan.
2. Review presentation and develop a list of questions to use during class.
3. Review and prepare conference / discussion material presented.
4. Ensure all equipment listed for this lesson plan (LP) is present, operable, and set up for use before class.
5. Refer to the practical exercise of this lesson plan. When necessary develop additional situations to use during the practical exercise.
6. PowerPoint users: Ensure the SLI file you are using has been called up using Microsoft PowerPoint Viewer and SLI / slide 1 is showing on the screen before class.
7. Whenever noted, slides are available to assist in explanation of task steps. Use slides as needed during class or practical exercise to reinforce training. The instructor may choose to use / not use the LP SLIs as developed, modify the existing SLIs content / order or insert new material as is necessary based on audience analysis to assist in Soldier learning. Changes must be annotated as a pen / ink change on the vault file master LP, VIP LP, and instructor LP. Changes must be approved through Senior Instructor and TDCD 183rd RTI Development Team notified.
8. Whenever necessary, ask leading questions of Soldiers in order to prompt Soldier discussion.
9. Encourage Soldiers to relate their first hand experiences during the activities.
10. Facilitate this lesson using Instructor methodologies.
11. Control group activities using Instructor techniques.

**Proponent Lesson  
Plan Approvals**

<u>Name</u>	<u>Rank</u>	<u>Position</u>	<u>Date</u>
Robert Padin	Not available	Approver	08 Mar 2013

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## SECTION II. INTRODUCTION

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Method of Instruction: Lecture  
Instr Type(I:S Ratio/Qty): instructor (1:32/0)  
Time of Instruction: 5 mins  
Instructional Strategy: Large Group Instruction

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### Motivator

In our current operational environment a Soldiers survivability depends on the proficeincy, and confidence in their ability to apply the fundamentals of engaging targets, making a more lethal, and deadly combination during combat.

### Terminal Learning Objective

**NOTE.** Inform the students of the following Terminal Learning Objective requirements.

At the completion of this lesson, you [the student] will:

Action:	Engage targets with a 40mm grenade launcher.
Conditions:	Given a grenade launcher, field uniform, PPE, 24 rounds of TP ammunition, and 3 round of HE ammunition.
Standards:	Zero and qualify with the grenade launcher both day and night IAW TM 3-22.31.

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### Safety Requirements

#### **Safety Requirements in a Classroom Setting:**

Safety is of the utmost importance in any training environment. During the training process, commanders will utilize the 5-Step Risk Management process to determine the safest and most complete method to train. Every precaution will be taken during the conduct of training. Safety is everyone's responsibility to recognize, mitigate, and report hazardous conditions. Instructor note: The instructor will brief the students on the unit/facility SOP for classroom contingencies i.e. what doors will be used to exit the classroom, rally points, severe weather, WBGT/Kestrel set up, etc.

#### **Safety Requirements other than Classroom Settings:**

Safety must be paramount in the complex outdoor environment. During the training process, commanders will utilize the 5-Step Risk Management process to determine the safest and most complete method to train. Every precaution will be taken while replicating realistic battlefield conditions.

Safety is everyone's responsibility to recognize, mitigate, and report hazardous conditions. Instructor note: The instructor will brief the unit/site SOP and Risk Management Worksheet for all potential contingencies encountered during that training period/event i.e. WBGT/Kestrel set up, trail vehicles for PT/foot marches, severe weather, fire, evacuation routes, muzzle awareness, range safety briefs, required medical FLA with driver and medics with emergency equipment, student injury procedures, and rally points etc.

### Risk Assessment Level

**Moderate - All Army Instructors will conduct a Risk Assessment Worksheet (DA Form 7566, CRM Worksheet, Apr 05) prior to training and brief Soldiers on identified hazards and required controls.**

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Assessment: The operations officer, in cooperation with the principal instructor, will prepare a risk assessment using the before, during, and after checklist and the risk assessment matrixes contained in Risk Management FM 5-19.

Controls: See Attached DA Form 7566.

Leader Actions: See Attached DA Form 7566.

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**Environmental Considerations**

**NOTE:** Instructor should conduct a Risk Assessment to include Environmental Considerations IAW FM 3-34.5, Environmental Considerations {MCRP 4-11B}, and ensure students are briefed on hazards and control measures.

Users must comply with all local environmental regulations and guidance while conducting training.

**Evaluation**

Soldiers will be evaluated by task performance measures.

**Instructional Lead-in**

Your ability to effectively engage targets with the grenade launcher will greatly assist your squads ability to maneuver on the battlefield.

### SECTION III. PRESENTATION

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**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**A. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Operate the M203 Grenade Launcher.
<b>CONDITIONS:</b>	In a field environment given an M203 grenade launcher, cleaning kit, and a dummy 40mm round, and grenade launcher skill test lanes.
<b>STANDARDS:</b>	Receive a "GO" on the grenade launcher skills test.

ELO A - LSA 1. Learning Step / Activity ELO A - LSA 1. Discuss the characteristics and capabilities of the M203 Grenade Launcher.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(1:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

A. The M203-series grenade launchers are lightweight, single-shot, breech-loaded, pump action (sliding barrel), shoulder-fired weapons.

B. Capabilities and Features.

1. Length: 12 inches.
2. Weight: 3.0 pounds.
3. Caliber: 40mm.
4. Weight of ammunition: 8 ounces.
5. Muzzle velocity: 250 ft/sec.
6. Maximum range: 400 Meters.
7. Maximum effective range area: 350 Meters.
8. Maximum effective range point: 150 Meters.
9. Minimum safe firing range (HE): Training unprotected: 165 Meters.
10. Minimum safe firing range (HE): Training protected: less than 165 Meters.
11. Minimum safe firing range (HE): Combat: 31 Meters.
12. Minimum arming range: 14 to 38 Meters.

C. Component parts.

1. Handguard
2. Receiver assembly
3. Barrel assembly
4. Barrel latch
5. Trigger guard
6. Safety
7. Sights
  - a. Quadrant sight assembly
  - b. Leaf sight assembly

Check on Learning: What are your questions on the capabilities of the M203 grenade launcher?

Review Summary: Having discussed the capabilities of the weapon we will now discuss the 40mm ammunition used with the weapon system.

ELO A - LSA 2. Learning Step / Activity ELO A - LSA 2. Identify types of ammunition used in the M203 grenade launcher.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(1:32/0)

Time of Instruction: 0 hrs 10 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

A. The M203 grenade launcher uses fixed-type, low-velocity 40-mm rounds.

B. Types of Ammunition:

1. Pyrotechnic Signal and Spotting Rounds.

a. Star Cluster

1. White M585

2. 5 Dots on top.

3. Used for signaling.

b. Star Parachute

1. White M583, Green M661, Red M662.

2. Raised letter on top denotes color.

3. Used for signaling or illumination.

c. Ground Smoke Marker

1. Red M713, Green M715, Yellow M716.

2. Color band on top denotes color.

3. Used for signaling and marking.

d. Infrared Illuminant

1. M992

2. Orange top.

3. Used to illuminate.

2. Training Practice round.

a. M781

b. Used for live fire training.

c. Danger radius is 20 meters.

3. High Explosive Rounds.

a. HE M406, HEDP M433.

b. Gold tops, HE is conical like a bullet and HEDP is rounded.

c. Used to engage enemy targets.

4. Non-Lethal Cartridges

- a. M1006
  - 1. Light green rounded top.
  - 2. Used to engage personnel.
- b. M1029
  - a. Green flat top.
  - b. Used against crowds of personnel.

**WARNING - Observe all operator instruction that are packed with the M1006 cartridge. Failure to due so may cause injury to personnel or damage to equipment.**

**WARNING - Do not fire the M1029 at groups or individuals closer than 10 meters, engaging personnel closer than 10 meters may cause death.**

- C. Care and handling of ammunition.
  - 1. Aluminum cases are easily dented and may be hard to chamber and extract. Use care in handling ammunition.
  - 2. Keep ammunition dry, clean, and free of grease, sand, mud, snow, and ice.
  - 3. When storing ammunition in the open is necessary, raise it on dunnage at least 6 inches from the ground, and protect it with a cover, leaving enough space for air circulation.
  - 4. Do not open ammunition containers until they are ready to be used.
  - 5. Protect ammunition from high temperatures and the direct rays of the sun.
  - 6. Do not attempt to disassemble ammunition or any of its components.

Check on Learning:           What are your questions on the types of ammunition used with the M203 grenade launcher?

Review Summary:            Your knowledge of the different types of ammunition will enable you to effectively engage targets in combat.

ELO A - LSA 3.   Learning Step / Activity ELO A - LSA 3. Maintain the M203 grenade launcher.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(2:32/0)

Time of Instruction: 0 hrs 10 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

- 1. Clear the M203 grenade launcher.
  - a. Push in the release button, and pull the barrel forward.
  - b. Watch to see if a round extracts.
  - c. Move the safety to the SAFE ("S") position.
  - d. Inspect the breech to ensure a round is not present.
  - e. Pull the barrel to the rear until it clicks. This cocks the weapon.

2. Disassemble the M203.

- a. Remove the quadrant sight from host weapon by loosening the knurled screw
- b. Remove the leaf sight or handguard leaf sight assembly.

Note: Leaf sight with rail grabber is used on M16A3/A4 rifle and M4/M4A1 carbine rail systems.

- (1) Remove leaf sight from rail by loosening the torque limiting knob.
- (2) Remove the handguard leaf sight.
  - (a) Pull back on the slip ring and lift up on handguard.
  - (b) Pull to the rear to remove from host weapon.
- c. Press barrel latch and move barrel forward until it stops.
- d. Press barrel stop with cleaning rod section (Figure 5, Item 2) to remove barrel from receiver.

Note: Do not interchange barrels from one weapon to another. Further disassembly may be performed only by the armorer.

3. Clean and lubricate the M203.

- a. Clean the bore.
  - (1) Attach a clean, dry rag to the thong and thoroughly moisten the rag with CLP and pull the rag through the bore several times.
  - (2) Attach the bore brush to the thong and pull it through the bore several times.
  - (3) Follow this with more rags moistened with CLP, if needed.
  - (4) Pull dry rags through the bore and inspect each rag as it is removed.

Note: The bore is clean when a dry rag ran through the bore is clean.

- (5) Pull a rag lightly moistened with CLP through the bore to leave a light coat of lubricant inside the barrel.

b. Clean the Breech insert.

- (1) Clean the face of the breech insert retainer with a patch and CLP.
- (2) Remove the CLP cleaner with dry rags.
- (3) Lubricate the breech with a light coat of CLP.

c. Clean all other parts.

- (1) Use a brush and dry rags to clean all other parts and surfaces.
- (2) Apply a light coat of CLP to the exterior of the launcher after cleaning.

d. Safety mechanism.

- (1) Clean the safety mechanism properly with CLP.
- (2) Lubricate the safety with CLP.

4. Inspect the M203 before assembly.

- a. Check handguard for cracks, dents, or distortion that prevent its firm attachment to the rifle.

- b. Check leaf sight for bent or damaged parts and for rust or corrosion.
  - c. Check leaf sight for legibility of marking.
  - d. Check barrel for cracks and general condition.
  - e. Check for burrs, scratches, nicks, or other damage.
  - f. Inspect all parts for wear and damage.
5. Assemble the M203.
- a. Press barrel stop with cleaning rod section and slide barrel onto receiver.
  - b. Move the barrel rearward to lock.
  - c. Install the leaf sight or handguard leaf sight assembly.
    - (1) Attach the leaf sight.
      - (a) Turn torque limiting knob on leaf sight counter-clockwise until it stops.
      - (b) Align leaf sight on rail appropriately.

Note: CARBINE: Recoil lug of the rail grabber will be located in slot "T24" on the rail.

RIFLE: Recoil lug of the rail grabber will be located in slot "T38" on the rail.

(c) Sit leaf sight on rail so it is flush with rail then turn torque limiting knob until it clicks twice.

(2) Attach the handguard leaf sight.

(a) Pull slip ring rearward, slide handguard forward and down to install on host weapon.

(b) Release slip ring over the handguard flange to lock handguard in place.

d. Install the quadrant sight.

(1) Place quadrant sight on carrying handle of host weapon with knurled screw on right side of carry handle.

(2) Tighten knurled screw clockwise until quadrant sight does not wiggle on carry handle.

6. Perform a function check on the M203.

a. Check the proper operation of the sear. Cock the launcher, pull the trigger, and continue to hold the trigger. When you pull the trigger, you release the firing pin and should hear a metallic click. Hold the trigger to the rear and cock the launcher again. Release the trigger, then pull. The firing pin should again release.

**WARNING - If the sear malfunctions, the launcher could fire without your pulling the trigger.**

b. Check the safety by pulling the trigger in both the SAFE ("S") and FIRE ("F") positions. You must cock the launcher before you can place the safety in the SAFE ("S") position.

c. Check the windage adjustment screw on the leaf sight assembly for proper operation.

d. Only if the weapon has been zeroed: Move the elevation adjustment screw.

e. Move the barrel forward and back to be sure the barrel stop and barrel latch function.

Check on Learning:

What are your questions concerning the maintenance procedures for the M203 grenade launcher.

Review Summary: We have discussed the maintenance procedures you must use to ensure your weapon system remains fully mission capable in combat.

ELO A - LSA 4. Learning Step / Activity ELO A - LSA 4. Load and Unload the M203 grenade launcher.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(2:32/0)

Time of Instruction: 0 hrs 10 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

A. Load the M203 grenade launcher.

1. Ensure the safety is in SAFE position.
2. Depress the barrel latch.
3. Slide the barrel assembly forward.

**CAUTION - Before loading make sure the bore and chamber are clean and dry.**

4. Insert a single round of ammunition into the chamber.
5. Slide the barrel closed until it locks.

Note: When the barrel locks, you will hear a click.

B. Unload the M203 grenade launcher.

1. Point the weapon muzzle in a safe direction.
2. Attempt to place the safety in the "S" position.

Note: If M203 is not cocked, the lever cannot be placed on SAFE ("S" position).

3. Remove the round from the M203.

Note: If you are not positive that the round is a spent cartridge then use the procedures for removing a live round.

a. Remove a live round.

Note: This is used for all live rounds or when the round status is unknown.

- (1) Depress the barrel latch.
- (2) Place one hand under the barrel assembly forward of the trigger guard.
- (3) Slowly slide barrel assembly forward.

Note: The round will begin to eject.

**WARNING - To unload an unfired weapon and avoid detonation or injury to personnel or equipment, either catch the ejected round or hold the weapon close to the ground to reduce the distance the round can fall.**

- (4) Grasp the round with one hand as it ejects.
- (5) Secure the round as per unit standing operating procedure (SOP).
- b. Removing a expended round casing.

Note: This is used only when it is known that a spent cartridge is in the barrel.

- (1) Depress the barrel latch.
- (2) Slide barrel assembly forward.

Note: The casing will automatically eject.

- (3) Secure the expended round casing, as required.

4. Close the barrel by sliding it until it locks, unless preparing to reload the M203.

Check on Learning: What are your questions on the loading and unloading procedures used with the M203 grenade launcher.

Review Summary: Your ability to master this task will facilitate your ability to quickly reload in combat.

ELO A - LSA 5. Learning Step / Activity ELO A - LSA 5. Correct malfunctions of an M203 grenade launcher.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(2:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

- 1. Keep the M203 pointed in a safe direction.

Note: If time permit wait 30 second from the time of the failure before opening the barrel assembly.

**DANGER - If you are unloading a weapon that has not been fired, avoid detonation either by catching the ejected round or by holding the weapon close to the ground to reduce the distance the round can fall.**

- 2. Correct a hangfire or misfire.



Note: A hangfire is a delay in the propellant's igniting. A misfire is a failure to fire. Both are handled in the same way since they are often indistinguishable. Technical manual (TM) 9-1010-221-10 has further troubleshooting procedures.

a. Unload the M203.

- (1) Release the barrel latch.
- (2) Slide the barrel forward to eject the round.

Note: If the round does not eject, tap the casing with the rifle cleaning rod.

b. Examine the primer of the ejected round to see if it is dented.

- (1) If the primer is dented, separate the round from other ammunition until it can be disposed of properly.
- (2) If primer is not dented go to next step.

c. Inspect M203.

- (1) Check for too much oil or water in back of breech insert.
- (2) Check for dirt and/or residue in firing pin hole.
- (3) Check for dirt in locator slot.
- (4) Check firing mechanism for defect.

Note: If firing mechanism is defective, the weapon must be turned in to maintenance.

3. Reload the M203.

4. Engage target.

Check on Learning: What are your questions pertaining to correcting malfunctions of the M203 grenade launcher.

Review Summary: During this period of instruction we have discussed misfire procedures and hangfire procedures you must use to safely correct malfunctions of the weapon system.

ELO A - LSA 6. Learning Step / Activity ELO A - LSA 6. Mount a Night Vision Sight, AN/PSQ-18A, on an M203 Grenade Launcher.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(2:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

1. Unpack AN/PSQ-18A night vision sight from bag.
  - a. Verify all major components are present.
    - (1) Ensure battery cap is present.
    - (2) Ensure safety block is present.
  - b. Seek guidance if any component is missing.

2. Inspect equipment for the following:
  - a. Cracks in equipment.
  - b. Loose parts.
  - c. Battery that has cracks, leaking or is bulging.

**WARNING - Ensure the mode select switch is turned to the off position before attempting to install, remove, or replace the battery.**

3. Install battery.

**WARNING - Be sure the M203 grenade launcher and host weapon are clear and safe before proceeding.**

4. Place the AN/PSQ-18A night vision sight on to the M203 grenade launcher.

Note: The AN/PSQ-18A night vision sight mounts directly to either the standard 12-inch or short 9-inch M203 grenade launcher barrels without impacting space on the MIL-STD-1913 rail of the host weapon.

- a. Loosen the mounting knob by rotating counterclockwise (CCW) to the full open position.
- b. Slide the mounting bracket over the end of the grenade launcher tube until it stops.
- c. Rotate the mounting knob clockwise (CW) until it is tight.
- d. Ensure the AN/PSQ-18A night vision sight is properly seated on the grenade launcher tube.
- e. Cycle the M203 grenade launcher breech five times.
- f. Retighten the mounting knob with a flat object to fully secure the AN/PSQ-18A night vision sight to the M203 grenade launcher.

Note: The AN/PSQ-18A night vision sight will maintain a pointing accuracy of +/- 5 mrad (approximately 25cm diameter circle at 25 meters ) with repeated mount/dismount operations on the same weapon. If the AN/PSQ-18A night vision sight is installed on a different launcher, it should be re-zeroed. Failure to properly secure and tighten the AN/PSQ-18A night vision sight to the M203 grenade launcher may lead to boresight repeatability and zeroing issues.

Check on Learning:           What are your questions concerning mounting the AN/PSQ 18?

Review Summary:            During this period we have discussed how to properly mount the AN/PSQ 18 to the M203 grenade launcher.

ELO A - LSA 7.   Learning Step / Activity ELO A - LSA 7. Grenade Launcher Skills Test.

Method of Instruction: Practical Exercise (Hands-On)  
Instr Type(I:S Ratio/Qty): instructor(6:32/0)

Time of Instruction: 6 hrs 0 min  
Instructional Strategy: Large Group Instruction  
Media Type: Actual Equipment / Practical Exercise  
Security Classification: This course/lesson will present information that has a  
Security Classification of: U - Unclassified.

The skill test consists of five stations.

Provide the Soldier with the equipment and/or materials described in the conditions statement.

Tell the Soldier what is expected of him by reviewing the task standards. Stress to the Soldier the importance of observing all cautions, warnings, and dangers to avoid injury to personnel and, if applicable, damage to equipment.

Grade the Soldiers using the task performance measures. Retrain Soldiers who do not receive a GO. Re-test Soldiers until they achieve a GO.

**Grenade Launcher Skills Test:**

Station 1: Maintain an M203 grenade launcher.

- a. Cleared the M203
- b. Disassembled the M203.
- c. Inspected the M203.
- d. Reassembled the M203.
- e. Performed a function check.

Station 2: Install the quadrant sight, leaf sight, and AN/PSQ 18.

- a. Installed the quadrant sight.
- b. Installed the leaf sight.
- c. Installed the AN/PSQ 18.

Station 3: Load, unload, and place the M203 on safe.

- a. Loaded.
- b. Unloaded.
- c. Placed on safe.

Station 4: Correct malfunction of M203.

- a. Kept the weapon pointed at the target.
- b. Waited 30 seconds then opened the breach.
- c. Removed the round.
- d. Examined the primer.

Station 5: ID Ammo.

- a. Identified the M781 TP round.
- b. Identified the M406 HE round.
- c. Identified the M433 HE round.
- d. Identified the M585 Star Cluster round.
- e. Identified the M583 White Star Parachute round.
- f. Identified the M713 Red Ground Smoke Marker round.
- g. Identified the M992 Infrared Illuminant round.
- h. Identified the M1006 Non-Lethal Cartridge.
- i. Identified the M1029 Crowd Dispersal Cartridge.

Check on Learning: Conduct a check on learning ask students questions and correct misunderstandings.

Review Summary: Conduct a review and summarize the learning step.

**CHECK ON LEARNING (ELO A):** What are your question on the operation of the M203 grenade launcher?

**REVIEW SUMMARY(ELO A):** During this period of instruction we have discussed what you need to know to be an effective grenadier in an Infantry Squad.

**B. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Zero the M203 Grenade Launcher.
<b>CONDITIONS:</b>	You are assigned a M203 grenade launcher attached to a M16 rifle or M4 carbine and have been directed to zero the M203. You have nine rounds of 40mm TP ammunition and targets at the range of 200 meters.
<b>STANDARDS:</b>	Zero both leaf sight and quadrant sights so that two consecutive rounds per sight hit within 5 meters of the point of aim at a distance of 200 meters.

ELO B - LSA 1. Learning Step / Activity ELO B - LSA 1. Zero the M203 grenade launcher leaf sight.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(2:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

**DANGER - Do not point muzzle in direction of personnel when loading, clearing, zeroing, or firing grenade launcher as this will result in injury to, or death of, personnel. Be sure safety is in safe position after loading grenade launcher. Do not squeeze trigger and remove safety at the same time. Do not zero in under 100 meters (330 ft).**

1. Zero the leaf sight.

Note: The Leaf sight scale is marked in 50 meter (165 ft) increments for targets from 50 to 250 meters (165 to 820 ft). The rifle sight is used for short range targets, 31 meters (102 ft) or less.

- a. Select a target at 200 meters.
- b. Place the leaf sight in the upright position.
- c. Place the center mark of the windage scale on the index line on the rear of the sight base.

Note: The 50 meter (165 ft) mark on the leaf sight blade is marked in red to emphasize that this range is not to be used in zeroing procedures.

- d. Loosen the elevation adjustment screw on the leaf sight.
- e. Place the index line of the leaf sight on the center elevation mark on the sight mount.
- f. Tighten the elevation adjustment screw on the leaf sight.
- g. Assume a supported prone position.
- h. Align the target with the 200-meter increment of the leaf sight and the front sight post of the rifle.
- i. Fire a round and observe the impact.
- j. Make the necessary sight adjustment.
  - (1) Adjust Windage by turning the sight windage screw clockwise to move the leaf sight to the left or counter clockwise to move the right.

Note: One increment moves round impact 1 1/2 meters at a range of 200 meters.  
(2) Adjust Range by using a 40-mm cartridge case and turn the elevation adjustment screw to raise the leaf sight (increases range) or to lower the leaf sight (decreases range).

Note: Moving the leaf sight one increment moves the impact of the round 10 meters at a range of 200 meters.

- k. Fire two more rounds.

Note: Once a round impacts within 5 meters of the target, the weapon is zeroed. After you have zeroed the weapon, record the zero data on your scorecard.

- (1) Observe impact of round.
- (2) Readjust the sight after each shot.

Note: Once a round impacts within 5 meters of the target, the weapon is zeroed.

Check on Learning:           What are your questions on zeroing the M203 leaf sight.

Review Summary:            We have discussed how to zero the leaf sight, we will now

discuss the quadrant sight.

ELO B - LSA 2. Learning Step / Activity ELO B - LSA 2. Zero the M203 quadrant sight.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(2:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

**DANGER - Do not point muzzle in direction of personnel when loading, clearing, zeroing, or firing grenade launcher as this will result in injury to, or death of, personnel. Be sure safety is in safe position after loading grenade launcher. Do not squeeze trigger and remove safety at the same time. Do not zero in under 100 meters (330 ft).**

2. Zero the quadrant sight.

Note: Quadrant is marked in 25 meter (83 ft) increments for targets from 50 to 400 meters (165 to 1320 ft).

- a. Select a target at 200 meters.
- b. Ensure that the sight is correctly mounted on the carrying handle of the rifle.
- c. Open the front sight post and rear sight aperture.

Note: Elevation adjustment: one notch equals 5 meters at 200 meters. The rear aperture slides in or out for windage correction when the retainer is depressed. A vertical line denotes the center. One notch equals 1 1/2 meters at a 200 meter range.

- (1) Move the front sight post to its highest position and then back 2 1/2 turns.
- (2) Depress the rear sight retainer.
- (3) Slide the rear sight aperture left or right to align the wide index line of the rear sight aperture with the edge of the sight aperture arm.
- d. Move the sight latch rearward.
- e. Reposition the quadrant sight arm to zeroing range (200 meters).
- f. Assume a prone supported firing position.
- g. Use correct sighting and aiming procedures to align the target with the front sight post and rear sight aperture.
- h. Fire the M203 at target.
- i. Make the necessary sight adjustments, if required.
  - (1) Adjust elevation by turning the front sight post right (to decrease elevation) or left (to increase elevation).

Note: At a range of 200 meters, one full turn equals 5 meters.

(2) Adjust the Windage by pressing the sight aperture retainer and moving the rear sight aperture away from the barrel to move the trajectory to the left or vice versa.

Note: At a range of 200 meters, one notch on the rear sight aperture equals 1 1/2 meters.

j. Fire two more rounds.

Note: After you have zeroed the weapon, record the zero data on your scorecard.

(1) Observe impact of round.

(2) Readjust the sight after each shot.

Note: If the round lands within 5 meters of the target, the weapon is zeroed.

Check on Learning: What are your questions pertaining to zeroing the M203 quadrant sight?

Review Summary: Your ability to zero the quadrant sight will greatly enhance your first hit capabilities when firing the weapons system.

ELO B - LSA 3. Learning Step / Activity ELO B - LSA 3. Borelight the AN/PSQ-18 to the M203 grenade launcher.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(3:32/0)

Time of Instruction: 0 hrs 10 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

A. This procedure is accomplished using a standard US military laser borelight system (AN/PEM-1), a 40-mm mandrel adapter, a 5.56-mm mandrel, and a full-size boresight target.

1. To zero the DNS to the grenade launcher using a laser—

a. Securely mount the DNS to the grenade launcher and set the DNS range adjustment knob to 0 meters.

b. Position a target at 10 meters oriented in a vertical position.

c. Insert the 40-mm mandrel adapter into the barrel of the grenade launcher.

d. Install the 5.56-mm mandrel to the laser borelight and insert the 5.56-mm mandrel into the 40-mm mandrel adapter.

e. Position the grenade launcher on a rest. Brace the weapon so that it is aimed in the direction of the laser borelight target and is oriented without cant.

f. Turn on the laser borelight.

g. Rotate the laser borelight, and adjust the borelight's beam adjusters until the borelight beam appears stationary as the laser borelight is rotated.

Note. Refer to TM 9-5860-226-13&P for a detailed description of this procedure.

- h. Aim the grenade launcher in the direction of the laser borelight target. Ensure that the grenade launcher is not canted.
- i. Use night vision devices to observe and verify the IR beam. Adjust the focus and diopter settings for the best image.
- j. Rotate the Mode Select switch on the DNS to the AIM LO position, and activate the laser.

Note. Double tap the Laser Activation button to enable continuous hands-free operation of the laser.

**CAUTION - Do not over adjust the borelight adjusters. Failure to comply may result in equipment damage.**

- k. Adjust the windage and elevation adjusters on the DNS until the laser dot is centered on the reference point located on the target.
- l. Zero the DNS iron sights by centering the sight picture on the target designation named "iron sight." Once complete, double check that the IR laser and borelight have not moved from their locations.

Note. It is vital that the shooter is completely behind the sight.

- m. Turn the DNS Mode Select switch to the OFF position.
- n. Turn the borelight laser to the OFF position.

**DANGER - REMOVE THE BORELIGHT AND MANDREL ADAPTER FROM THE WEAPON PRIOR TO FIRING 5.56-MM RIFLE OR 40-MM GRENADE LAUNCHER. FAILURE TO DO SO CAN RESULT IN SERIOUS INJURY OR DEATH.**

- o. Remove the laser borelight and the 40-mm mandrel adapter from the barrel of the grenade launcher.

Check on Learning:           What are your questions on borelighting the AN/PEQ 18?

Review Summary:           Your ability to zero the AN/PEQ 18 using the laser borelight will reduce your zeroing time while on the range live firing.

ELO B - LSA 4.   Learning Step / Activity ELO B - LSA 4. Borelight the AN/PSQ-18 PE.

Method of Instruction: Practical Exercise (Hands-On)

Instr Type(I:S Ratio/Qty): instructor(1:8/0)

Time of Instruction: 0 hrs 30 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment / Practical Exercise

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.



Break the students down into two man teams and have them borelight the M203 grenade launchers.

Check on Learning: Conduct a check on learning ask students questions and correct misunderstandings.

Review Summary: Conduct a review and summarize the learning step.

ELO B - LSA 5. Learning Step / Activity ELO B - LSA 5. Zero the M203 PE.

Method of Instruction: Practical Exercise (Hands-On)

Instr Type(I:S Ratio/Qty): instructor(1:8/0)

Time of Instruction: 1 hr 0 min

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment / Practical Exercise

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

Live fire zero the leaf sight and the quadrant sight.

1. Zeroed the leaf sight.
2. Zeroed the quadrant sight.

Check on Learning: Conduct a check on learning ask students questions and correct misunderstandings.

Review Summary: Conduct a review and summarize the learning step.

**CHECK ON LEARNING (ELO B):** Conduct a check on learning ask students questions and correct misunderstandings.

**REVIEW SUMMARY(ELO B):** Conduct a review and summarize the ELO.

### C. ENABLING LEARNING OBJECTIVE

<b>ACTION:</b>	Engage Targets with the M203 Grenade Launcher.
<b>CONDITIONS:</b>	Given an M203 grenade launcher, AN/PEQ18, AN/PVS14, 15 rounds of TP ammunitions, and 3 rounds of HE ammunition on a live fire range.
<b>STANDARDS:</b>	Qualify both day and night IAW TC 3-22.31.

ELO C - LSA 1. Learning Step / Activity ELO C - LSA 1. Engage targets with the M203 grenade launcher using the leaf sight and quadrant sight.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(2:32/0)

Time of Instruction: 0 hrs 10 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

**WARNING - Keep muzzle pointed down range and clear of all friendly troops. Hearing protection is required for all personnel within 20 meters of a weapon firing any pyrotechnic type rounds. DO NOT fire unauthorized ammunition with grenade launcher**

**CAUTION - ALWAYS ensure bore and chamber are clean and dry before loading.**

1. Determine range to target.

**WARNING - Fire high-explosive (HE) grenades at targets within 130 meters (427 feet) (minimum safe) from a protected position. When training (minimum safe), do not fire at targets within 130 meters (427 feet). In combat, do not fire at targets closer than 31 meters (102 feet).**

2. Load the M203 grenade launcher.

3. Select the appropriate aiming technique based on target range.

a. Use short range targetry for targets at 50 meters or less.

(1) Place the leaf sight down.

(2) Use the rifle sights.

b. Use mid range targetry for targets from 50 to 250 meters.

(1) Raise the leaf sight.

(2) Line up front sight post of M16/M4 with proper mark on leaf sight to aim.

c. Use long range targetry for targets from 250 to 400 meters.

(1) Use the quadrant sight.

(2) Look through rear aperture to front sight post of quadrant sight to aim.

4. Assume an appropriate firing position.

Note: Launcher may be fired from the standing, kneeling, or prone position.

a. Place the stock of the weapon on the ground when firing long range from the prone position.

b. Hold the stock firmly against your shoulder for all other positions.

5. Obtain sight picture (using leaf sight or quadrant sight).

Note: The Leaf sight may be used at ranges between 50 and 250 meters. The Quadrant sight can be used for ranges are from 50 to 400 meters.

6. Adjust the leaf sight, if necessary.

Note: For range, the leaf sight scale is marked in 50 meter (165 feet) increments for targets from 50 to 250 meters. For elevation, one increment equals 10 meters (33 feet) at a 200 meter (660 feet) range. For windage, one increment equals 1.5 meters (5 feet) at a 200 meter (660 feet) range.

a. For headwind and rear wind:

(1) Loosen the elevation adjustment screw to move the leaf sight up to increase range for headwind.

(2) Lower it to decrease range for rear wind.

(3) Use the rim of a used 40mm cartridge to turn the elevation adjustment screw.

b. For left wind and right wind:

(1) Turn the windage adjustment screw clockwise to adjust for wind from the left.

(2) Turn the windage adjustment screw counterclockwise to adjust for wind from the right.

7. Adjust the quadrant sight, if necessary.

Note: Range quadrant is marked in 25 meter (83 feet) increments from 50 to 400 meters (165 to 1,320 feet).

a. Pull the latch toward you to release the quadrant sight arm.

b. Select elevation.

Note: For elevation adjustment, one notch equals 5 meters (17 feet) at a 200 meter (660 feet) range.

c. For headwind and rear wind:

(1) Turn the front sight post left to increase range for headwind.

(2) Turn the front sight post right to decrease range for rear wind.

d. For left wind and right wind:

(1) Depress the retainer and slide the rear aperture in to adjust for wind from the right.

(2) Slide the rear aperture out to adjust for wind from the left.

Note: The vertical line marks the center. One notch equals 1.5 meters (5 feet) at a 200 meter (660 feet) range.

**WARNING - Be sure there are no obstacles (such as the sling or branches) in the line of fire.**

Check on Learning: Conduct a check on learning ask students questions and correct misunderstandings.

Review Summary: Conduct a review and summarize the learning step.

ELO C - LSA 2. Learning Step / Activity ELO C - LSA 2. Engage Targets with an M203 Grenade Launcher Using a Night Vision Sight, AN/PSQ-18A.

Method of Instruction: Conference/Demonstration  
Instr Type(I:S Ratio/Qty): instructor(1:8/0)\*  
Time of Instruction: 0 hrs 10 mins  
Instructional Strategy: Large Group Instruction / Demonstrator  
Media Type: Actual Equipment  
Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.  
Note: Marked as (\*) is derived from the parent learning object

1. Turn the AN/PSQ-18A night vision sight on to the prescribed mode.
  
2. Operate the AN/PSQ-18A night vision sight.
  - a. Adjust for range to the target.
    - (1) Turn the range adjustment knob clockwise (CW) or counterclockwise (CCW) to alter the angular orientation of the AN/PSQ-18A night vision sight with respect to the grenade launcher.

WARNING - WHEN SET TO LESS THAN 40 METERS, THE RANGE DISPLAYED ON THE LCD WILL FLASH, INDICATING THAT IS IS NOT SAFE TO FIRE THE GRENADE LAUNCHER.

- (2) Turn the range adjustment knob until the estimated range to target is displayed on the liquid crystal display (LCD) and the mechanical range scale.

Note: When the mode select switch is turned to any position other than off, range is displayed on the LCD in 5-meter increments.

- b. Sight the AN/PSQ-18A night vision sight.
      - (1) Sight with Iron sights.
      - (2) Sight with the infrared (IR) aim laser.
    - c. Maintain proper cant of weapon.
      - (1) Check cant status bar.
      - (2) Check light emission diode (LED) cant indicator.

Note: A bi-color LED provides an additional visual indicator to assist in maintaining proper cant. A steady green light indicates that the weapon is properly oriented. A flashing red light indicates that the weapon is canted.

3. Engage targets with AN/PSQ-18A night vision sight until the target is disabled or destroyed.
      - a. Select the appropriate firing position.
      - b. Estimate range to enemy.
      - c. Adjust range setting in regards to the enemy target.
      - d. Ensure the proper cant is attained.
      - e. Select the correct mode on the AN/PSQ-18A night vision sight for day or night time firing.

- f. Direct the IR aim laser toward the enemy target.
- g. Fire the M203 grenade launcher with an 40mm high explosive (HE).

Check on Learning: Conduct a check on learning ask students questions and correct misunderstandings.

Review Summary: Conduct a review and summarize the learning step.

ELO C - LSA 3. Learning Step / Activity ELO C - LSA 3. Qualify with the M203 grenade launcher PE.

Method of Instruction: Practical Exercise (Hands-On)

Instr Type(I:S Ratio/Qty): instructor(1:8/0)\*

Time of Instruction: 2 hrs 0 min

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment / Practical Exercise

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

Note: Marked as (\*) is derived from the parent learning object

Students will qualify day and night IAW TC 3-22.31.

1. Determined range to target.
2. Loaded the M203 grenade launcher.
3. Selected the appropriate aiming technique based on target range.
4. Assumed an appropriate firing position.
5. Obtained sight picture.
6. Adjusted the leaf sight, if necessary.
7. Adjusted the quadrant sight, if necessary.
8. Moved safety to the FIRE position.
9. Engaged the target.
10. Adjusted fire by sensing the impact of the round and manipulating the sight.

Check on Learning: Conduct a check on learning ask students questions and correct misunderstandings.

Review Summary: Conduct a review and summarize the learning step.

**CHECK ON LEARNING (ELO C):** Conduct a check on learning ask students questions and correct misunderstandings.

**REVIEW SUMMARY(ELO C):** Conduct a review and summarize the ELO.

**D. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Operate the M320 Grenade Launcher.
<b>CONDITIONS:</b>	In a field environment given an M320 grenade launcher, cleaning kit, a dummy

	40mm round, and grenade launcher skills test lane.
<b>STANDARDS:</b>	Receive a "GO" on the grenade launcher skills test.

ELO D - LSA 1. Learning Step / Activity ELO D - LSA 1. Discuss the characteristics and capabilities of the M320 Grenade Launcher.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(1:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

A. The purpose of the M320 and M320A1 grenade launchers is to provide personnel with offensive and defensive capabilities to engage targets in the field. These weapons provide the Soldier a lightweight, operator friendly, flexible, lethal, and reliable tool.

B. Features:

1. The M320/M320A1 grenade launcher is a lightweight grenade launcher that can operate in a standalone or attached configuration. The M320/M320A1 grenade launcher uses a double-action-only trigger system. It features a forged aluminum rifled barrel, allowing the Soldier to accurately engage targets as far away as 350 meters with various types of ammunition. Ambidextrous operating controls and a sling mounting point allow the weapon to be fitted to the Soldier. The swing out barrel aids the Soldier in rapid reloading.

2. Components:

- a. Leaf sight assembly.
- b. Buttstock locking lever.
- c. Buttstock assembly.
- d. Hexagonal key wrench.
- e. Remote Cable switch.
- f. Ambidextrous selector lever.
- g. Trigger.
- h. Barrel release button.
- i. Folding vertical grip.
- j. Day/night sight (DNS) assembly.
- k. Sling attachment points.
- l. Buttstock position index marks.
- m. Laser borelight system.

3. Capabilities:

- a. Length: 19.69 inches with buttstock extended.
- b. Weight: 7.0 pounds.
- c. Caliber: 40mm.
- d. Weight of ammunition: 8 ounces.
- e. Muzzle velocity: 236.22 ft/sec.

- f. Maximum range: 400 Meters.
- g. Maximum effective range area: 350 Meters.
- h. Maximum effective range point: 150 Meters.
- i. Minimum safe firing range (HE): Training unprotected: 165 Meters.
- j. Minimum safe firing range (HE): Training protected: less than 165 Meters.
- k. Minimum safe firing range (HE): Combat: 31 Meters.
- l. Minimum arming range: 14 to 38 Meters.

Check on Learning: What are your questions concerning the M320 grenade launcher capabilities?

Review Summary: Conduct a review and summarize the learning step.

ELO D - LSA 2. Learning Step / Activity ELO D - LSA 2. Install mounting bracket, leaf sight assembly, and DNS.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(2:32/0)

Time of Instruction: 0 hrs 15 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

- A. To install the mounting adapters for M16- and M4-series weapons—
- (1) Remove the stowed hexagonal key wrench from the rear of the receiver.
  - (2) Screw the adapter locking screw into the right side of the front mounting adapter using the 5-mm end of the hexagonal key wrench. Continue until it is flush, but not tightened.
  - (3) Position the front mounting adapter over the appropriate cutout in the front part of the receiver, and align the holes.
  - (4) Use two socket head cap screws to secure the front adapter. Tighten them using the 5-mm end of the hexagonal key wrench.
  - (5) Press the buttstock locking lever, place the rear mounting adapter in the slot in the rear of the receiver, and align the holes.

Note. One socket head cap screw is required for the M4 rear mounting adapter, and two cap screws are required for the M16 rear mounting adapter.

- (6) From the bottom of the receiver, install the longer socket head cap screw in the rear of the rear mounting adapter. Tighten it using the 5- mm end of the hexagonal key wrench, progressing from bottom to top.
- (7) From the top of the rear mounting adapter, install the shorter socket head cap screw(s) in the front of the rear mounting adapter. Tighten it using the 5-mm end of the hexagonal key wrench.

Note. Failure to mount mounting adapter from bottom to top may cause misalignment.

B. Install the leaf sight.

C. To install the DNS—

- (1) Loosen the clamping knob on the DNS until the clamping jaws can fit over the rail of the mounting bracket.
- (2) Install the remote cable connector into the remote jack.

Note. The DNS works best when it fits securely. Ensure that the DNS is not loose.

- (3) Position the recoil lug in the groove of the rail of the mounting bracket. Applying forward pressure, turn the clamping knob clockwise to tighten. Ensure that the DNS is securely seated and tightened in the mounting bracket.

Check on Learning: Conduct a check on learning ask students questions and correct misunderstandings.

Review Summary: Conduct a review and summarize the learning step.

ELO D - LSA 3. Learning Step / Activity ELO D - LSA 3. Maintain the M320 grenade launcher.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(2:32/0)

Time of Instruction: 0 hrs 10 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

1. Perform before checks and services on the grenade launcher.
  - a. Ensure the weapon is clear.
    1. Point the muzzle of the weapon in a safe direction, with the trigger finger outside of the trigger guard.
    2. Move the selector lever to the SAFE position ("S").
    3. Press the barrel release, and allow the barrel to swing out from the left side of the receiver.
    4. Inspect the barrel to see if any ammunition is present. If ammunition is present, grasp the rim of the cartridge, and pull it toward the rear of the weapon. Dispose of ammunition in accordance with the unit SOP.
    5. Swivel the barrel into the receiver until the locking lever engages the barrel.
  - b. Perform a visual inspection for missing or damaged components.

Note: Equipment is not ready if Components are missing or damaged. A missing stowed hex key wrench is considered a shortcoming but does not prohibit use of the weapon.

- c. Check grenade launcher for cracks, burrs, excessive wear, dents, rust, dirt, and corrosion.



Note: Equipment is not ready if weapon displays cracks, excessive wear, or corrosion.

d. Check for absence of protective finish.

Note: If weapon is missing finish on more than 1/3 of receiver notify field maintenance.

2. Perform before checks and services on the barrel assembly.

a. Check barrel for dents, bulges, burrs, signs of corrosion, or excessive dirt.

Note: Equipment is not ready if the barrel has any dents, bulges, burrs, or signs of corrosion.

b. Check barrel for proper locking into receiver.

(1) Ensure barrel can pivot outward by pressing the barrel release.

Note: Equipment is not ready if barrel does not pivot outward when barrel release is pressed.

(2) Pivot barrel back into receiver the barrel should seat and remain locked.

Note: Equipment is not ready if barrel is not, or does not remain, firmly seated and locked when closed into receiver.

c. Check that the rubber barrel stop is present and is not cracked, torn, or worn.

Note: Equipment is not ready if rubber barrel stop is missing or damaged.

3. Perform before checks and services on the receiver and adapter.

a. Check that receiver and adapter are free of cracks, dents, burrs, bulges, or signs of corrosion.

Note: Equipment is not ready if receiver and/or adapter have any cracks, dents, burrs, bulges, or signs of corrosion.

b. Check buttstock locking lever.

Note: Equipment is not ready if locking lever does not pivot in and out of receiver, binds or sticks in either position, or does not lock into position.

4. Perform before checks and services on the trigger mechanism.

a. Inspect trigger for cracks.

Note: Equipment is not ready if the trigger displays cracks.

b. Inspect trigger spring for loss of spring tension by pulling trigger.

Note: Equipment is not ready if trigger spring displays loss of tension.

5. Perform a function test on the M320 Grenade Launcher.

a. Ensure selector lever rotates from "S" (safe) to "F" (fire) and back to "S".

Note: Equipment is not ready if the selector lever fails to rotate in either direction or fails to seat firmly into either position.

b. Attempt to pull trigger rearward.

Note: This should only be attempted with weapon unloaded, pointed in a safe direction, and the selector lever in the "S" position.

Note: Equipment is not ready if the trigger moves to rearward (Fire) position or shows excessive movement toward rearward (Fire) position.

c. Press barrel release to allow barrel to pivot outward.

d. Place selector lever in "S" position.

e. Ensure the firing pin does not protrude from bolt face into chamber.

Note: Equipment is not ready if the firing pin protrudes from bolt face into chamber.

f. Press barrel release to allow barrel to pivot outward.

g. Place selector lever in "F" position.

h. Press barrel release while attempting to pull trigger.

i. Press upward (release position) on the barrel release.

j. Ensure that it must not be possible to pull trigger rearward enough to raise and release hammer.

Note: Equipment is not ready if trigger can be pulled rearward enough to raise and release hammer while barrel release is pressed upward to release position.

k. Pull trigger and detect firing pin protrusion with light finger pressure on breech face.

Note: Equipment is not ready if firing pin protrusion cannot be detected.

6. Perform before checks and services on the leaf sight assembly.

a. Inspect front and rear sights for proper attachment.

b. Inspect front and rear sights for any signs of damage.

c. Sight base and sight support should be secure to receiver with no movement.

Note: Equipment is not ready if front and/or rear sight, sight base, or sight support is not secure, or sight is damaged.

d. Ensure that the front and rear sights are firmly retained in both extended and retracted positions.

Note: Equipment is not ready if either front or rear sight is not firmly retained in both extended and retracted positions.

7. Perform before checks and services on the Day/Night Sight (DNS).

a. Inspect DNS housing for cracks, missing parts, and other visual defects.

Note: Equipment is not ready if the DNS housing displays cracks, missing parts, or other visual defects.

b. Inspect liquid crystal display (LCD) and laser apertures for dirt, dust, and grime.

Note: Equipment is not ready if LCD or laser apertures are obstructed with dirt, dust, or grime.

c. Inspect battery compartment for dirt, dust, or corrosion.

Note: Equipment is not ready if battery compartment displays dirt, dust, or corrosion.

d. Inspect battery cap O-ring for dirt and sand particles.

Note: Equipment is not ready if battery cap O-ring displays dirt or sand particles.

e. Check O-ring for pliability.

Note: Equipment is not ready if O-ring is dried out.

f. Inspect battery for bulging, leaking, or corrosion.

Note: Equipment is not ready if battery displays bulging, leaking, or corrosion.

g. Ensure that safety block prevents the placement of mode select switch in DUAL HI position, when installed in training mode (blue side up).

Note: Equipment is not ready if when installed in safety mode, the safety block permits DUAL HI selection.

h. Check that mode select switch turns freely and remains in selected position.

Note: Equipment is not ready if mode select switch does not turn freely or remain in selected position.

i. Check that range adjustment knob turns freely.

Note: Equipment is not ready if range adjustment knob does not turn freely.

j. Install 3-volt battery in DNS and ensure the DNS is working properly.

Note: Equipment is not ready if LCD range indicator does not change with adjustment or DNS does not emit laser beam.

8. Perform before checks and services on the Laser Range Finder (LRF).

a. Inspect LRF housing for cracks, missing parts, and other damage.

Note: Equipment is not ready if LRF housing is cracked or damaged or parts are missing.

b. Inspect lenses for cracks, breaks, or fogging.

Note: Equipment is not ready if any of the lenses is cracked, broken, or fogged.

c. Install battery and observe operation of LRF.

Note: Equipment is not ready if LRF does not turn on.

9. Perform during checks and services on the grenade launcher.

a. Observe operation and functioning for component failure.

b. Report failures to field maintenance.

c. Check bore frequently for debris.

d. Clean bore if dirty.

Note: Equipment is not ready if grenade launcher does not function properly.

10. Perform after checks and services on the grenade launcher.

a. Inspect for damaged or missing components.

b. Report deficiencies to field maintenance.

c. Clean and lubricate IAW TM 9-1010-232-10.

d. Equipment is not ready if parts are missing or damaged.

Check on Learning:

What are your questions concerning the maintenance procedures for the M302 grenade launcher?

Review Summary:

We have discussed the maintenance procedures you must use to ensure your weapon system remains fully mission capable in combat.

launcher.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(2:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

**WARNING - Do not point muzzle in direction of personnel when loading or firing grenade launcher as this may result in injury or death to personnel. Weapon must be carried in closed and locked position with selector lever on "S" (safe).**

A. Load the M320.

1. Point muzzle of weapon in a safe direction.
2. Ensure selector lever is in "S" (safe) position.
3. Remove the muzzle cap.
4. Press barrel release and pivot barrel out from receiver.
5. Insert cartridge into barrel.
6. Ensure cartridge is seated fully forward in rear of barrel.
7. Pivot barrel into receiver until barrel locking lever engages barrel.

Note: There should be an audible click when the barrel locking lever engages barrel.

**WARNING - Keep hands, fingers, and other potential obstructions clear of the barrel. Short barrel length of grenade launcher increases the risk of barrel obstruction. Injury to personnel can result if barrel is obstructed.**

B. Unload the M320.

1. Point muzzle of weapon in a safe direction, with trigger finger outside trigger guard.
2. Place selector lever in "S" (safe) position.
3. Press upward on barrel release lever.
4. Inspect barrel for presence of ammunition.
5. Remove any round or cartridge case by hand.
  - a. Grasp rim of round or cartridge case.

b. Pull rearward to remove round or cartridge case from rear of barrel.

6. Pivot barrel into receiver until barrel release lever engages barrel.

7. Ensure selector lever remains in "S" (safe) position.

Check on Learning: What are your questions on the loading and unloading procedures used with the M320 grenade launcher?

Review Summary: Your ability to master this task will facilitate your ability to quickly reload in combat.

ELO D - LSA 5. Learning Step / Activity ELO D - LSA 5. Correct malfunctions of an M320 grenade launcher.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(2:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

Correct malfunction of M320.

a. Keep the weapon pointed at the target.

b. Wait 30 seconds then opened the breach.

c. Removed the round.

**DANGER - If you are unloading a weapon that has not been fired, avoid detonation either by catching the ejected round or by holding the weapon close to the ground to reduce the distance the round can fall.**

d. Examine the primer.

Check on Learning: What are your questions pertaining to correcting malfunctions of the M320 grenade launcher?

Review Summary: During this period of instruction we have discussed misfire procedures and hangfire procedures you must use to safely correct malfunctions of the weapon system.

ELO D - LSA 6. Learning Step / Activity ELO D - LSA 6. Identify types of ammunition used in the M320 grenade launcher.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(1:32/0)

Time of Instruction: 0 hrs 10 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

A. The M320 grenade launcher uses fixed-type, low-velocity 40-mm rounds.

B. Types of Ammunition:

1. Pyrotechnic Signal and Spotting Rounds.

a. Star Cluster

1. White M585

2. 5 Dots on top.

3. Used for signaling.

b. Star Parachute

1. White M583, Green M661, Red M662.

2. Raised letter on top denotes color.

3. Used for signaling or illumination.

c. Ground Smoke Marker

1. Red M713, Green M715, Yellow M716.

2. Color band on top denotes color.

3. Used for signaling and marking.

d. Infrared Illuminant

1. M992

2. Orange top.

3. Used to illuminate.

2. Training Practice round.

a. M781

b. Used for live fire training.

c. Danger radius is 20 meters.

3. High Explosive Rounds.

a. HE M406, HEDP M433.

b. Gold tops, HE is conical like a bullet and HEDP is rounded.

c. Used to engage enemy targets.

4. Non-Lethal Cartridges

a. M1006

1. Light green rounded top.

2. Used to engage personnel.

b. M1029

a. Green flat top.

b. Used against crowds of personnel.

**WARNING - Observe all operator instruction that are packed with the M1006 cartridge. Failure to do so may cause injury to personnel or damage to equipment.**

**WARNING - Do not fire the M1029 at groups or individuals closer than 10 meters, engaging personnel closer than 10 meters may cause death.**

C. Care and handling of ammunition.

1. Aluminum cases are easily dented and may be hard to chamber and extract. Use care in handling ammunition.

2. Keep ammunition dry, clean, and free of grease, sand, mud, snow, and ice.

3. When storing ammunition in the open is necessary, raise it on dunnage at least 6 inches from the ground, and protect it with a cover, leaving enough space for air circulation.
4. Do not open ammunition containers until they are ready to be used.
5. Protect ammunition from high temperatures and the direct rays of the sun.
6. Do not attempt to disassemble ammunition or any of its components.

Check on Learning: What are your questions on the types of ammunition used with the M320 grenade launcher?

Review Summary: Your knowledge of the different types of ammunition will enable you to effectively engage targets in combat.

ELO D - LSA 7. Learning Step / Activity ELO D - LSA 7. Grenade Launcher Skills Test PE.

Method of Instruction: Practical Exercise (Hands-On)

Instr Type(I:S Ratio/Qty):

Time of Instruction: 6 hrs 0 min

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment / Practical Exercise

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

Students must receive a "GO" IAW TC 3-22.31. Use DA FORM 7680R to evaluate the students.

Grenade Launcher Skills Test:

Station 1: Maintain an M302 grenade launcher.

- a. Cleared the M302.
- b. Disassembled the M302.
- c. Inspected the M302.
- d. Reassembled the M302.
- e. Performed a function check.

Station 2: Install the mounting brackets, leaf sight, and DNS.

- a. Installed the mounting brackets.
- b. Installed the leaf sight.
- c. Installed the DNS.

Station 3: Load, unload, and place the M320 on safe.

- a. Loaded.
- b. Unloaded.
- c. Placed on safe.

Station 4: Correct malfunction of M320.

- a. Kept the weapon pointed at the target.



- b. Waited 30 seconds then opened the breach.
- c. Removed the round.
- d. Examined the primer.

Station 5: ID Ammo.

- a. Identified the M781 TP round.
- b. Identified the M406 HE round.
- c. Identified the M433 HE round.
- d. Identified the M585 Star Cluster round.
- e. Identified the M583 White Star Parachute round.
- f. Identified the M713 Red Ground Smoke Marker round.
- g. Identified the M992 Infrared Illuminant round.
- h. Identified the M1006 Non-Lethal Cartridge.
- i. Identified the M1029 Crowd Dispersal Cartridge.

Check on Learning: Conduct a check on learning ask students questions and correct misunderstandings.

Review Summary: Conduct a review and summarize the learning step.

**CHECK ON LEARNING (ELO D):** What are your question on the operation of the M320 grenade launcher?

**REVIEW SUMMARY(ELO D):** During this period of instruction we have discussed what you need to know to be an effective grenadier in an Infantry Squad.

**E. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Zero the M320 Grenade Launcher.
<b>CONDITIONS:</b>	You are a Soldier given an M320 grenade launcher mounted on an M16-series / M4 Carbine rifle, 9 rounds of 40mm TP ammunition and a target range of 200 meters
<b>STANDARDS:</b>	Zero the iron and the leaf sights so that two consecutive rounds per sight hit within 5 meters of the point of aim at a distance of 200 meters.

ELO E - LSA 1. Learning Step / Activity ELO E - LSA 1. Zero the DNS iron sights.

Method of Instruction: Conference/Demonstration  
 Instr Type(I:S Ratio/Qty): instructor(2:32/0)  
 Time of Instruction: 0 hrs 5 mins  
 Instructional Strategy: Large Group Instruction / Demonstrator  
 Media Type: Actual Equipment  
 Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

- 1. Zero using the day night sight(DNS) iron sight.
  - a. Position target down range at 200m.
  - b. Turn DNS mode select switch to day mode.
  - c. Set DNS range adjustment knob so display indicates 200 m.

- d. Fire one 40-mm cartridge grenade at 200-m target and note point of impact(POI) in relation to the point of aim(POA).
- e. Adjust DNS iron sight windage adjuster and elevation adjuster to correct POI to DNS iron sight.
- f. Fire another 40-mm round and note POI relative to target.
- g. Continue to shoot and make adjustments until one round impacts within 5m of POA.

Check on Learning:           What are your questions concerning zeroing of the DNS iron sights?

Review Summary:            Having discussed the DNS iron sights, we will now discuss zeroing the leaf sight assembly.

ELO E - LSA 2.   Learning Step / Activity ELO E - LSA 2. Zero using the leaf sight assembly.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(2:32/0)

Time of Instruction: 0 hrs 5 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

2. Zero using the leaf sight assembly.

- a. Clear host weapon.
- b. Clear grenade launcher.

**WARNING - Do not attempt to fire grenade launcher in stand alone mode without buttstock attached. The grenade launcher should always be either mounted on a host weapon or fitted with buttstock before attempting to fire.**

c. Position grenade launcher on a rest.

NOTE: If grenade launcher is to be operated in stand alone mode, install buttstock.

- d. Position a sighting-in target at a distance of 200m from grenade launcher.
- e. Raise and extend front sight and rear sight.
- f. Ensure grenade launcher is horizontally positioned so that sights are not vertically canted from side-to-side.
- g. Align and center front sight post in rear leaf 200m aperture recess.
- h. Fire a round at sighting-in target.
- i. Continue to shoot to adjustments until one round impacts within 5m of POA.

NOTE: If POI does not match POA, sight can be adjusted for both windage and elevation using 3mm end of stowed hex key wrench.

NOTE: If round does not impact/fall within 5m of POA, make any necessary

adjustments to windage and/or elevation.

(1) Elevation adjustment follow procedures in TM 9-1010-232-10.

(2) Windage adjustment follow procedures in TM 9-1010-232-10.

Check on Learning: What are your questions concerning zeroing the leaf sight assembly?

Review Summary: We have discussed zeroing the leaf sight assembly we will now zero the DNS for night fire.

ELO E - LSA 3. Learning Step / Activity ELO E - LSA 3. Borelight the DNS.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(3:32/0)

Time of Instruction: 0 hrs 10 mins

Instructional Strategy: Large Group Instruction / Demonstrator

Media Type: Actual Equipment

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

A. This procedure is accomplished using a standard US military laser borelight system (AN/PEM-1), a 40-mm mandrel adapter, a 5.56-mm mandrel, and a full-size boresight target.

1. To zero the DNS to the grenade launcher using a laser—

- a. Securely mount the DNS to the grenade launcher and set the DNS range adjustment knob to 0 meters.
- b. Position a target at 10 meters oriented in a vertical position.
- c. Insert the 40-mm mandrel adapter into the barrel of the grenade launcher.
- d. Install the 5.56-mm mandrel to the laser borelight and insert the 5.56-mm mandrel into the 40-mm mandrel adapter.
- e. Position the grenade launcher on a rest. Brace the weapon so that it is aimed in the direction of the laser borelight target and is oriented without cant.
- f. Turn on the laser borelight.
- g. Rotate the laser borelight, and adjust the borelight's beam adjusters until the borelight beam appears stationary as the laser borelight is rotated.

Note. Refer to TM 9-5860-226-13&P for a detailed description of this procedure.

- h. Aim the grenade launcher in the direction of the laser borelight target. Ensure that the grenade launcher is not canted.
- i. Use night vision devices to observe and verify the IR beam. Adjust the focus and diopter settings for the best image.
- j. Rotate the Mode Select switch on the DNS to the AIM LO position, and activate the laser.

Note. Double tap the Laser Activation button to enable continuous hands-free operation of the laser.

**CAUTION - Do not over adjust the borelight adjusters. Failure to comply may result in equipment damage.**

- k. Adjust the windage and elevation adjusters on the DNS until the laser dot is centered on the reference point located on the target.
- l. Zero the DNS iron sights by centering the sight picture on the target designation named "iron sight." Once complete, double check that the IR laser and borelight have not moved from their locations.

Note. It is vital that the shooter is completely behind the sight.

- m. Turn the DNS Mode Select switch to the OFF position.
- n. Turn the borelight laser to the OFF position.

**DANGER - REMOVE THE BORELIGHT AND MANDREL ADAPTER FROM THE WEAPON PRIOR TO FIRING 5.56-MM RIFLE OR 40-MM GRENADE LAUNCHER. FAILURE TO DO SO CAN RESULT IN SERIOUS INJURY OR DEATH.**

- o. Remove the laser borelight and the 40-mm mandrel adapter from the barrel of the grenade launcher.

Check on Learning:           What are your questions concerning the borelighting of the DNS?

Review Summary:           Your ability to borelight the weapon system will greatly increase your ability to destroy targets.

ELO E - LSA 4.   Learning Step / Activity ELO E - LSA 4. Borelight the DNS PE.

Method of Instruction: Practical Exercise (Hands-On)

Instr Type(I:S Ratio/Qty): instructor(1:8/0)

Time of Instruction: 0 hrs 30 mins

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment / Practical Exercise

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

Soldiers will break into two man groups and borelight the DNS.

Check on Learning:           Conduct a check on learning ask students questions and correct misunderstandings.

Review Summary:           Conduct a review and summarize the learning step.

ELO E - LSA 5. Learning Step / Activity ELO E - LSA 5. Zero the M320 grenade launcher PE.

Method of Instruction: Practical Exercise (Hands-On)  
Instr Type(I:S Ratio/Qty): instructor(1:8/0)  
Time of Instruction: 1 hr 0 min  
Instructional Strategy: Large Group Instruction  
Media Type: Actual Equipment / Practical Exercise  
Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

M320 zero live fire exercise.

Soldiers will zero the M320 IAW TC 3-22.31.

1. Zeroed using the DNS iron sight.
2. Zeroed using the leaf sight assembly.

Check on Learning: Conduct a check on learning ask students questions and correct misunderstandings.

Review Summary: Conduct a review and summarize the learning step.

**CHECK ON LEARNING (ELO E):** What are your questions on zeroing the M320 grenade launcher?

**REVIEW SUMMARY(ELO E):** Your ability to zero the weapon will guarantee your increased ability to engage targets on the battlefield with less ammunition.

**F. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Engage Targets with the M320 Grenade Launcher.
<b>CONDITIONS:</b>	Given a M320 grenade launcher, DNS, AN/PVS14, 15 rounds of TP ammunitions, and 3 rounds of HE ammunition on a live fire range.
<b>STANDARDS:</b>	Receive a "GO" on the grenade launcher skills test and qualify both day and night IAW TC 3-22.31.

ELO F - LSA 1. Learning Step / Activity ELO F - LSA 1. Engage targets with the M320 DNS.

Method of Instruction: Conference/Demonstration  
Instr Type(I:S Ratio/Qty): instructor(2:32/0)  
Time of Instruction: 0 hrs 10 mins  
Instructional Strategy: Large Group Instruction / Demonstrator  
Media Type: Actual Equipment  
Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

1. Determine the range of target using the laser range finder.
2. Select range on Day/Night Sight (DNS) to nearest range in 5-meter increments.

**WARNING - Do not attempt to fire grenade launcher in standalone mode without buttstock attached. The grenade launcher should always be either mounted on a host weapon or fitted with buttstock before attempting to fire. Keep hands, fingers, and other potential obstructions clear of the barrel. Short barrel length of grenade launcher increases the risk of barrel obstruction. Injury to personnel can result if barrel is obstructed.**

3. Align and center post of front sight in aperture window of rear sight of DNS on target.
4. Ensure selector lever is turned to the "F" (fire) position.
5. Place finger on grenade launcher trigger.
6. Pull trigger rearward using an even pace and consistent pressure until hammer falls and weapon fires.
7. Clear the weapon.
8. Ensure the safety selector lever is turned to the "S" (safe) position.

Check on Learning: Conduct a check on learning ask students questions and correct misunderstandings.

Review Summary: Conduct a review and summarize the learning step.

ELO F - LSA 2. Learning Step / Activity ELO F - LSA 2. Qualify with the M320 grenade launcher PE.

Method of Instruction: Practical Exercise (Hands-On)

Instr Type(I:S Ratio/Qty): instructor(1:8/0)

Time of Instruction: 2 hrs 0 min

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment / Practical Exercise

Security Classification: This course/lesson will present information that has a Security Classification of: U - Unclassified.

Students will qualify day and night IAW TC 3-22.31.

1. Determined the range of target using the laser range finder.
2. Selected range on Day/Night Sight (DNS) to nearest range in 5-meter increments.
3. Aligned and center post of front sight in aperture window of rear sight of DNS on target.
4. Ensured selector lever is turned to the "F" (fire) position.
5. Placed finger on grenade launcher trigger.
6. Pulled trigger rearward using an even pace and consistent pressure until hammer

falls and weapon fires.

7. Cleared the weapon.

8. Ensured the safety selector lever is turned to the "S" (safe) position.

9. Qualified.

Check on Learning: Conduct a check on learning ask students questions and correct misunderstandings.

Review Summary: Conduct a review and summarize the learning step.

**CHECK ON LEARNING (ELO F):** Conduct a check on learning ask students questions and correct misunderstandings.

**REVIEW SUMMARY(ELO F):** Conduct a review and summarize the ELO.

## SECTION IV. SUMMARY

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Method of Instruction:	Lecture
Instr Type(I:S Ratio/Qty):	instructor(1:32/0)
Time of Instruction:	5 mins
Instructional Strategy:	Large Group Instruction

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### **Check on Learning**

Conduct a check on learning ask students questions and correct misunderstandings.

### **Review/ Summary**

Conduct a review and summarize the ELO.



## SECTION V. STUDENT EVALUATION

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### **Testing Requirements**

Soldiers will be evaluated by task performance measures.

### **Feedback Requirements**

Feedback is essential to effective learning. Schedule and provide feedback on the assessment and any information to help answer Soldiers' questions about the training exercise.

**Appendix A - Viewgraph Masters**

**Operate the M203/M320 Grenade Launchers  
071-SAWE17 / Version 1.0**

<b>Sequence</b>	<b>Media Name</b>	<b>Media Type</b>
None		

## Appendix B - Test(s) and Test Solution(s)

**Appendix C - Practical Exercises and Solutions**

**PRACTICAL EXERCISE(S)/SOLUTION(S) FOR LESSON 071-SAWE17 Version 1.0**

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**Appendix D - Student Handouts**

**Operate the M203/M320 Grenade Launchers  
071-SAWE17 / Version 1.0**

<b>Sequence</b>	<b>Media Name</b>	<b>Media Type</b>
None		

## Appendix E - TRAINER'S LESSON OUTLINE

### Operate the M203/M320 Grenade Launchers

071-SAWE17 / Version 1.0

Effective Date: 08 March 2013

#### 1. The importance of this lesson: (Why)

Engage targets with a 40mm grenade launcher.

#### 2. What we want our Soldiers to Achieve: (Outcomes/Standard)

Qualify with the grenade launcher both day and night IAW TM 3-22.31.

#### 3. Tasks to be taught

<u>Task Number</u>	<u>Task Title</u>	<u>Task Type</u>
071-032-0008	Engage Targets with an M203 Grenade Launcher Using a Night Vision Sight, AN/PSQ-18A	Individual TAUGHT
071-032-0009	Mount a Night Vision Sight, AN/PSQ-18A, on an M203 Grenade Launcher	Individual TAUGHT
071-031-0001	Engage Targets with an M320 Grenade Launcher	Individual TAUGHT
071-031-0002	Load an M320 Grenade Launcher	Individual TAUGHT
071-031-0003	Unload an M320 Grenade Launcher	Individual TAUGHT
071-031-0004	Maintain an M320 Grenade Launcher	Individual TAUGHT
071-031-0005	Zero an M320 Grenade Launcher	Individual TAUGHT
071-COM-2126	Perform a Function Check on an M203 Grenade Launcher	Individual TAUGHT
071-COM-2127	Load an M203 Grenade Launcher	Individual TAUGHT
071-COM-2128	Unload an M203 Grenade Launcher	Individual TAUGHT
071-COM-2103	Zero an M203 Grenade Launcher	Individual TAUGHT
071-COM-2130	Engage Targets with an M203 Grenade Launcher	Individual TAUGHT
071-COM-2129	Correct Malfunctions of an M203 Grenade Launcher	Individual TAUGHT
071-COM-2125	Maintain an M203 Grenade Launcher	Individual TAUGHT
07-3-9013	Conduct Action on Contact	Collective SUPPORTED
07-3-1333	Knock Out a Bunker	Collective SUPPORTED
07-3-9018	Enter and Clear a Building (Section-Platoon)	Collective SUPPORTED
07-3-9021	Clear a Trench Line	Collective SUPPORTED
07-2-9003	Conduct a Defense (Platoon-Company)	Collective SUPPORTED
07-3-1072	Conduct a Disengagement (Section-Platoon)	Collective SUPPORTED
07-2-9008	Conduct a Raid (Platoon-Company)	Collective SUPPORTED

## Additional Non-Standard Tasks

None

## 4. References:

<u>Reference Number</u>	<u>Reference Title</u>	<u>Date</u>
FM 5-19	COMPOSITE RISK MANAGEMENT	21 Aug 2006
TM 3-22.31	40-MM Grenade Launchers	17 Nov 2010
TM 9-1010-221-10	OPERATORS MANUAL FOR GRENADE LAUNCHER, 40-MM: M203 (NSN 1010-00-179- 6447);GRENADE LAUNCHER, 40-MM: M203A1 (1010-01-434-9028);HEADQUARTERS, DEPARTMENT OF THE ARMY, AIR FORCE, MARINE CORPS, AND NAVY {TO	01 Aug 2001
TM 9-1010-232-10	OPERATOR'S MANUAL FOR GRENADE LAUNCHER, 40 MM, M320, W/E (NSN 1010-01-566-9083) GRENADE LAUNCHER, 40 MM, M320A1, W/E (1010-01-557-2542)	28 Nov 2008

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## Additional Non-Standard References

Unit Markanmanship SOPs.

## 5. Resources

*TIME: Time of Instruction (Time not specified)*

*LAND: Classroom, Training Area, and Range Requirements*

<u>Id</u>	<u>Name</u>
17884	Range, Grenade Launcher
17999	Training Area, Field
17120-M-1600-40	Classroom, Multipurpose, 1600 Square Feet, 40 Students

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*AMMO: Ammunition Requirements*

<u>DODIC</u>	<u>Name</u>
B472	Dummy Cartridge, 40 Millimeter, M25 F/L60
B519	Cartridge, 40 Millimeter
B546	Cartridge, 40 Millimeter

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*MISC: Materiel Items and TADSS Requirements*

<u>Id</u>	<u>Name</u>
1005-01-231-0973	CARBINE,5.56 MILLIMETER
1005-01-561-7200	Magazine, Cartridge
1010-01-524-9010	Launcher, Grenade, Rifle, M203-40mm
1010-01-557-2542	Launcher Grenade: M320A1
2310-01-380-8225	Truck Ambulance: 4 Litter Armored 4x4 W/E (HMMWV): M997A2
2330-01-108-7367	Trailer Water: M149A2
4110-01-485-3548	CHEST,ICE STORAGE
5820-01-451-8252	Radio Set: AN/PRC-119F(C)
5855-01-432-0524	Monocular Night Vision Device: AN/PVS-14
5860-01-471-2091	BORELIGHT SYSTEM,LASER
6135-00-985-7845	Battery, Nonrechargeable, AA
6135-01-036-3495	BATTERY,NONRECHARGEABLE
6135-01-522-6679	Battery Assembly, Airbase Protection Force, Flashlight Models A2, C2, C3, E2d, G2, L2, L4, L5, M3, M4, U2, X200A
6260-01-178-5559	LIGHT,CHEMILUMINESCENT
6515-00-137-6345	Plug Ear Universal Size 400S
6515-01-472-1863	INTRAVENOUS INJECTION SET
6515-01-541-8147	SUPPORT,CERVICAL
6530-01-290-9964	Litter, Folding, Rigid Pole
6545-01-505-1170	Medical Equipment Set, Combat Lifesaver
6545-01-539-6448	Bag, Medical Aid
6685-01-590-1047	Monitor, Heat Stress: Questemp 44
6730-01-C02-3126	Projector: Proxima M2+
6760-00-985-6749	Tripod, Photographic
7021-01-546-1532	COMPUTER,LAPTOP
7110-00-T81-1805	BOARD, DRY ERASE
7210-00-081-1417	Sheet, Bed Cotton White
7520-00-053-9580	Pen, Ball-Point, Medium, Black
7520-01-365-6126	Marker Assortment, Tube Type, Dry Erase, 12 Pens, Eraser, Cleaner, Case
8960-01-430-4378	ICE
9150-01-079-6124	CLEANER,LUBRICANT AND PRESERVATI
AVPRJ-PRJ-PTFP	SCREEN PROJECTOR
Z40430	TRUCK, CARGO, 4X4, LMTV

(Note: Asterisk before ID indicates a TADSS.)

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### Additional Non-Standard Resources

None

### 6. A possible technique to achieve the outcome:

Maximise hands on training time to allow the students to achieve task mastery.  
Grade the Soldiers using the task performance measures.  
Retrain Soldiers who do not receive a GO.  
Re-test Soldiers until they achieve a GO.



## **7. Conduct AAR with Soldier and Cadre.**

AAR's are essential to ensure the quality of the instruction and the efficiency of the course. Schedule AAR's with Instructors to solicit feedback on the techniques and procedures in use. Schedule AAR's with the Student's to solicit feedback on Instructional techniques, information being presented, and efficiency of the course.

**NOTE:** Before presenting this lesson, Instructors must be thoroughly prepared by studying the appropriate lesson plan and identified reference material.