

**MK19, 40mm Machine Gun  
071-SAWE05 / Version 1.0  
Effective Date 08 Mar 2013**

**SECTION I. ADMINISTRATIVE DATA**

**All Courses  
Including This  
Lesson**

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<u>Course Number</u>	<u>Version</u>	<u>Course Title</u>
None		

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**Task(s)  
Taught(\*) or  
Supported**

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<u>Task Number</u>	<u>Task Title</u>
<b><u>Individual</u></b>	
071-030-0001 (*)	Maintain an MK19 Grenade Machine Gun, Tripod, and Ammunition
071-030-0003 (*)	Zero an MK 19 Grenade Machine Gun
071-030-0004 (*)	Engage Targets with an MK 19 Grenade Machine Gun
071-030-0005 (*)	Load an MK 19 Grenade Machine Gun
071-030-0006 (*)	Unload an MK 19 Grenade Machine Gun
071-030-0007 (*)	Perform a Function Check on a MK 19 Grenade Machine Gun
071-030-0011 (*)	Mount an MK 19 Grenade Machine Gun on an M3 Tripod
071-030-0012 (*)	Dismount an MK 19 Grenade Machine Gun from an M3 Tripod
071-030-0008 (*)	Correct Malfunctions of an MK 19 Grenade Machine Gun
<b><u>Collective</u></b>	
07-2-3000	Conduct Support by Fire (Platoon-Company)

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**Reinforced  
Task(s)**

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<u>Task Number</u>	<u>Task Title</u>
None	

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**Knowledge**

<u>Knowledge Id</u>	<u>Title</u>	<u>Taught</u>	<u>Required</u>
071-MNT-0002	Demonstrate Knowledge of Maintenance Procedures	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-0067	Firing Positions	Yes	No
071-WPN-0068	Firing Techniques	Yes	No
071-WPN-0069	Zeroing Techniques	Yes	No
071-WPN-0070	Functioning of the Traversing & Elevation Mechanism	Yes	No
071-WPN-0071	Misfire Procedures	Yes	No
071-WPN-0072	Mounting Machine Guns Tripods	Yes	No
071-WPN-0080	Weapon Capabilities	Yes	No
071-WPN-0083	Traversing and Elevation Mechanism	Yes	No

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**Skill**

<u>Skill Id</u>	<u>Title</u>	<u>Taught</u>	<u>Required</u>
071-MNT-0003	Ability to Use Tools	No	Yes
071-MNT-0001	Interpret a Technical Manual	No	Yes
071-WPN-0034	Mount Infantry Weapons on Vehicles	Yes	No
071-WPN-0015	Apply Lubricants	Yes	No
071-WPN-0026	Assume Firing Positions	Yes	No
071-WPN-0005	Ability to Load and Unload Infantry Weapons	Yes	No
071-WPN-0013	Assemble Parts	Yes	No
071-WPN-0041	Identify Elevation Readings from the Vertical Scale of the T&E Mechanism	Yes	No
071-WPN-0011	Identify Operational Parts	Yes	No
071-WPN-0004	Identify Types of Ammunition	Yes	No
071-WPN-0016	Identify Unserviceable Parts	Yes	No
071-WPN-0033	Load and Unload Infantry Weapons	Yes	No
071-WPN-0029	Maintain Infantry Weapons	Yes	No
071-WPN-0031	Mount a Machine Gun on a Tripod with T&E Mechanism	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-0032	Use a Traversing and Elevation Mechanism	Yes	No
071-WPN-0009	Zero Infantry Weapons	Yes	No
071-WPN-0020	Clean Ammunition	Yes	No
071-WPN-0006	Clear Infantry Weapons	Yes	No
071-WPN-0008	Correct Weapons Malfunctions	Yes	No
071-WPN-0022	Detect Targets	No	Yes
071-WPN-0007	Detect Weapon Malfunctions	No	Yes
071-WPN-0023	Engage Targets with Infantry Weapons	Yes	No
071-WPN-0024	Follow Safety Procedures	No	Yes
071-WPN-0019	Identify Unserviceable Ammunition	Yes	No
071-WPN-0014	Use Cleaning Materials	Yes	No
071-WPN-0027	Zero Night Vision Devices to 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	4 hrs	12 mins	Conference/Demonstration
Yes	12 hrs	0 mins	Practical Exercise (Hands-On)
Yes	0 hrs	10 mins	Conference/Discussion
Yes	0 hrs	0 mins	Test Review
Yes	0 hrs	0 mins	Test
<hr/>			
Total Hours:	16 hrs	22 mins	

**Test Lesson  
Number**

<u>Hours</u>	<u>Lesson Number</u>
None	

**Prerequisite  
Lesson(s)**

<u>Lesson Number</u>	<u>Lesson Title</u>
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 3-22.27	MK 19, 40-Mm Grenade Machine Gun, Mod 3	14 Sep 2006	
FM 5-19	COMPOSITE RISK MANAGEMENT	21 Aug 2006	
TM 9-1005-245-13&P	OPERATORS, UNIT, AND DIRECT SUPPORT MAINTENANCE MANUAL WITH REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL) FOR MACHINE GUN MOUNTS AND COMBINATIONS FOR TACTICAL/ARMORED VEHICLES AND GROUND MOUNTING M122 MACH	17 Apr 2005	
TM 9-1005-344-10	OPERATOR'S MANUAL FOR GROUND MOUNTS M122 MACHINE GUN TRIPOD	15 Feb 2007	
TM 9-1010-230-10	OPERATORS MANUAL FOR MACHINE GUN, 40-MM, MK 19, MOD 3 (NSN 1010-01-126-9063) (EIC: 4AE) {TM 08521A-10/1A;TO 11W2-5-16-1;SW 363-C3-MMM-010}	30 May 2001	

**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	1:40		12.0
Ammunition NCO	1:20		24.0
Armorer	1:40		12.0
Medic	1:32		
Driver, FLA	1:32		
Driver, LMTV	1:16		

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**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>
1005-00-322-9716 - MOUNT,TRIPOD,MACHINE GUN	1:8	0:0	No	0	No
1005-00-322-9716 - MOUNT,TRIPOD,MACHINE GUN	0:0	0:0	No	0	
1005-00-322-9716 - MOUNT,TRIPOD,MACHINE GUN	0:0	0:0	No	0	
1005-00-344-6496 - Mount, Tripod M3	0:0	0:0	No	0	
1005-00-344-6496 - Mount, Tripod M3	1:8	0:0	No	0	No
1005-00-494-6602 - BRUSH,CLEANING,SMALL ARMS	0:0	0:0	No	0	
1005-00-550-4037 - BRUSH,CLEANING,SMALL ARMS	0:0	0:0	No	0	
1005-00-556-4102 - ROD,CLEANING,SMALL ARMS	0:0	0:0	No	0	
1005-00-603-4834 - ELEVATING AND TRAVERSING MECHANI	0:0	0:0	No	0	
1005-00-653-5441 - ROD,CLEANING,SMALL ARMS	1:8	0:0	No	0	No
1010-00-557-4621 - ELEVATION MECHANISM	1:8	0:0	No	0	No
1010-01-126-9063 - MACHINE GUN,GRENADE	1:8	0:0	No	0	No
1010-01-130-3435 - COMBINATION TOOL	1:8	0:0	No	0	No
1010-01-150-9983 - BRUSH ASSEMBLY,BORE	1:8	0:0	No	0	No
1010-01-150-9983 - BRUSH ASSEMBLY,BORE	0:0	0:0	No	0	
1010-01-151-6221 - Train and Elevation	1:8	0:0	No	0	No
1010-01-412-3159 - MOUNT,GUN	0:0	0:0	No	0	
1010-01-428-3233 - DETECTOR,BORE OBSTRUCTION	0:0	0:0	No	0	
2320-01-111-2274 - Truck, Ambulance, 4 Litter: M997	1:32	0:0	No	0	No
2320-01-354-3385 - Truck Cargo: 4x4 LMTV W/E: M1078	1:16	0:0	No	0	No
2350-01-068-4077 - Carrier Personnel Full Tracked: Armored: M113A2	0:0	0:0	No	0	
2350-01-068-4077 - Carrier Personnel Full Tracked: Armored: M113A2	0:0	0:0	No	0	
4470-01-359-2799 - COMPUTER, NOTEBOOK/LAPTOP	1:32	0:0	No	0	No
5120-01-021-7472 - PLIERS,SLIP JOINT	1:32	0:0	No	0	No

5180-01-528-0772 - Kit, MK64 Machine Gun Mount	0:0	0:0	No	0	
5180-01-528-0772 - Kit, MK64 Machine Gun Mount	1:8	0:0	No	0	No
5350-00-221-0872 - CLOTH,ABRASIVE	0:0	0:0	No	0	
5830-00-164-6622 - Public Address Set: AN/TIQ-2	1:32	0:0	No	0	No
6515-00-137-6345 - Plug Ear Universal Size 400S	1:1	1:1	No	0	No
6530-00-783-7510 - LITTER,NONRIGID,POLELESS	1:32	0:0	No	0	No
6530-00-783-7905 - LITTER,FOLDING,RIGID POLE	1:32	0:0	No	0	No
6545-01-254-9551 - MES,COMBAT LIFESAVER- 1999	1:16	0:0	No	0	No
6730-00-577-4813 - Screen, Projection	1:32	0:0	No	0	No
6730-00-933-4871 - Screen, Projection	1:32	0:0	No	0	No
6730-01-551-9773 - Projector, Multimedia: Epson Powerlite 760C	1:32	0:0	No	0	No
6850-00-224-6657 - CLEANING COMPOUND,RIFLE BORE	0:0	0:0	No	0	
6850-00-224-6657 - CLEANING COMPOUND,RIFLE BORE	1:8	0:0	No	0	Yes
6850-00-281-3061 - DRY CLEANING SOLVENT	0:0	0:0	No	0	
6920-00-071-4780 - Target, Silhouette	0:0	0:0	No	0	
6920-01-444-9703 - TARGET,TANK REPLICA	0:0	0:0	No	0	
7240-00-089-3827 - Can, Military	1:8	0:0	No	0	No
7920-00-205-1711 - RAG,WIPING	0:0	0:0	No	0	
8020-00-297-6657 - BRUSH,PAINT	0:0	0:0	No	0	
8105-00-285-4744 - BAG,SAND	0:0	0:0	No	0	
8415-01-092-0039 - MITTEN,HEAT PROTECTIVE	1:8	0:0	No	0	No
9150-00-223-4004 - GREASE,MOLYBDENUM DISULFIDE	1:8	0:0	No	0	Yes
9150-00-935-4018 - GREASE,MOLYBDENUM DISULFIDE	0:0	0:0	No	0	
9150-00-949-0323 - LUBRICATING OIL,SEMIFLUID	0:0	0:0	No	0	
9150-00-949-0323 - LUBRICATING OIL,SEMIFLUID	1:8	0:0	No	0	Yes
9920-00-292-9946 - CLEANER,TOBACCO PIPE	1:8	0:0	No	0	Yes
B67766 - BINOCULAR, 7X50MM, MODULAR CONSTR, M22	1:8	0:0	No	0	No

(Note: Asterisk before ID indicates a TADSS.)

**Materials  
Required**

*Instructor Materials:*

FM 3-22.27 MK 19, 40-mm GRENADE MACHINE GUN, MOD 3 (INCL C1)

TM 9-1010-230-10 Operators Manual MK 19

*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>
17834 Range, Machinegun/Grenade (40mm) Qualification	1	1:40	15	15
17120-1440-40 GENERAL INSTRUCTION BUILDING, 1440 SF, 40 PN	1	1:40	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	1:8	1:4	
B584 - Cartridge, 40 Millimeter	Y	32:1	32:1	



**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: Conference/Discussion  
Instr Type(I:S Ratio/Qty): instructor (4:32/0)  
Time of Instruction: 5 mins  
Instructional Strategy: Large Group Instruction

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### Motivator

The MK19, 40mm Grenade Machine gun, MOD 3, supports you, the Soldier, in both the offense and the defense. The MK19 can give your unit a heavy volume of close, accurate, and continuous fire.

### 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 the MK19 Grenade Machine Gun.
Conditions:	Given an MK19 Grenade Machine Gun, M3 Tripod, MK64 MOD 9, field uniform, PPE, ammunition, AN/PEQ-2A, AN/PAS-13B (V3) (HWTS), AN/PVS-7 or 14.
Standards:	Maintain the MK19 machine gun and engage targets.

### 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.**

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**

Although the MK19 is a recent entry into the Armys machine guns inventory, development began in 1963. The first version was a hand-cranked multiple grenade launcher called the MK18. In 1966, the need for more fire power inspired the development of a self-powered 40mm machine gun called the MK19 MOD 0. This model was neither reliable enough nor safe enough for use as a military gun. Product improvements begun in 1971 resulted in the 1972 MOD 1, which performed effectively in Navy riverine patrol craft, and broader applications for the MK19 were found. In 1973, the Navy developed the MOD 2, which featured improved reliability, safety and maintainability. In 1976, a complete redesign resulted in the MK19 MOD 3, which the Army adopted in 1983. The Army will use the MK19 within the tactical environment for defense, retrograde, patrolling, rear area security, MOUT, and special operations.

## SECTION III. PRESENTATION

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

### A. ENABLING LEARNING OBJECTIVE

<b>ACTION:</b>	Unload an MK 19 Grenade Machine Gun.
<b>CONDITIONS:</b>	As a gunner, given a MK 19 grenade machine gun, mounted on a tripod or vehicle, loaded with linked 40mm grenade ammunition, and a 40mm ammunition can. You have been directed to unload the weapon.
<b>STANDARDS:</b>	Place the safety switch to safe, remove the case catch bag, charge the weapon, remove all live rounds or spent cases from the bolt, open the top cover, remove linked rounds from the feeder, return the bolt to the forward position and place the safety switch in the S position.

ELO A - LSA 1. Learning Step / Activity ELO A - LSA 1. Unload the MK 19 Machine Gun.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

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.

1. Place the safety switch to S (SAFE).
2. Remove the case catch bag, if applicable.
3. Charge the weapon.

### **WARNING**

**Do not use a bayonet to remove an empty case or live round. A cleaning rod should be used.**

4. Remove live round or spent case from the bolt, if present.
  - a. Insert the tip of a cleaning rod through the receiver rail as close to the bolt face as possible.
  - b. Place the tip of the cleaning rod on top of the live round or spent case, as close to the bolt face as possible.
  - c. Position one hand beneath the weapon to catch the round as it falls out.
  - d. Force the live round off the bolt face and out the bottom of the gun by pushing down

on the cleaning rod.

e. Catch the live round as it falls out.

f. Dispose of the live round as per unit SOP.

**Note:** Do not reuse a live round that has been cycled through the weapon and removed from the bolt.

5. Open the top cover assembly.

6. Remove linked rounds from the feeder, if present.

a. Reach beneath the feed tray with one hand.

b. Press and hold both the primary and secondary positioning pawls.

c. Slide the linked rounds out of the feeder and out the feed throat.

d. Return the linked rounds to the ammunition can.

7. Return the bolt to the forward position.

a. Place the safety switch in the fire (F) position.

b. Hold one charger handle to the rear.

c. Ride the bolt forward by squeezing the trigger and easing the bolt forward.

d. Ensure both charging handles are forward and up position.

8. Place the safety switch in the S position.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

**CHECK ON LEARNING (ELO A):** Conduct a check on learning and correct any student misunderstandings.

**REVIEW SUMMARY(ELO A):** Summarize the learning objective.

**B. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Maintain an MK19 Grenade Machine Gun, Tripod, and Ammunition.
<b>CONDITIONS:</b>	As a gunner, given a MK 19 grenade machine gun, M3 tripod, pintle, traversing and

	elevating (T&E) mechanism, linked 40-mm ammunition, appropriate lubricants (lubricant semifluid automatic weapons (LSA), lubricant small arms with teflon (LSAT), grease molybdenum disulfide (GDM), lubricant arctic weather (LAW)), rifle bore cleaner (RBC), bore brush, wiping rags, MK 19 cleaning rod, cleaning swabs and the unit standing operating procedures (SOP). You have been directed to maintain a MK19.
<b>STANDARDS:</b>	Clear, disassemble, clean, inspect, lubricate, assemble, and perform a function check on the MK 19 grenade machine gun. Maintain the T&E mechanism, M3 tripod, and ammunition.

ELO B - LSA 1. Learning Step / Activity ELO B - LSA 1. Disassemble the MK19 machine gun.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 30 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.

1. Clear the MK19 machine gun.
2. Disassemble the MK19 machine gun.
  - a. Remove the feed throat assembly.
    - (1) Squeeze the two sets of grip pins together.
    - (2) Pull grip pins straight out.

#### **WARNING**

**The bolt must be in the forward position before you remove the backplate pin assembly to prevent injury.**

- b. Remove the bolt and backplate assembly.
  - (1) Ensure the bolt is in the forward position.
  - (2) Place the weapon on FIRE.
  - (3) Open the top cover.
  - (4) Pull the backplate pin straight out using the rim of a spent cartridge.
  - (5) Lift up slightly on the backplate assembly.
  - (6) Pull the bolt and backplate assembly out of the receiver.
  - (7) Support the bolt with one hand.
  - (8) Maintain a control grip with the other hand.
  - (9) Lift the bolt up slightly.
  - (10) Pull back on bolt.
  - (11) Remove the bolt.

#### **CAUTION**

**Do not rest the vertical cam assembly on its chromed surface.**

- c. Remove the primary drive lever and vertical cam assembly.
  - (1) Reach under the top of the receiver.
  - (2) Locate the drive lever lock on the vertical cam assembly.
  - (3) Slide the lock rearward about 1/4 inch.
  - (4) Press down on the primary drive lever's pivot post to release the primary drive lever and vertical cam assembly.

#### **CAUTION**

**Do not allow the vertical cam to be damaged by allowing it to hit the inside of the receiver.**

- (5) Pull out the vertical cam (to the rear) and the primary drive lever from the receiver.
- d. Remove secondary drive lever.
  - (1) Raise top cover.
  - (2) Push down on the pivot post from the outside top cover to release the secondary drive lever.
  - (3) Lift out the secondary drive lever from the top cover.
- e. Remove the feed slide assembly.
  - (1) Pivot the tray that holds the feed slide assembly out of the top cover.
  - (2) Move the feed slide assembly to line up the tabs with the slots in the tray.
  - (3) Lift upward on the feed slide assembly.

#### **CAUTION**

**Use fingers only, not pliers, to remove the top cover pins. Forcing the pin could break the small cross pin on the rod.**

- f. Remove the top cover assembly and feed tray.

**Note:** The feed tray must be down for you to remove the top cover pins.

  - (1) Hold the top cover straight up to align the crosspin end.
  - (2) Pull straight out on the pins.
  - (3) Lift off the top cover.
  - (4) Lift the tray out of the feeder.
- g. Remove the alignment guide assembly.
  - (1) Depress the flat leaf spring by using a cartridge link toggle (male end) or a small tool.
  - (2) Slide the alignment guide toward the feeder mouth.
  - (3) Pull rearward on the alignment guide.
  - (4) Lift alignment guide out.
- h. Remove the ogive plunger.
  - (1) Remove alignment guide.
  - (2) Pull out ogive plunger.
- i. Remove the round positioning block.
  - (1) Remove alignment guide.
  - (2) Push in round positioning block.

- (3) Slide round positioning block toward muzzle end of gun.
- (4) Pull the round positioning block away from wall of receiver.
- j. Remove the charging assemblies.
  - (1) Rotate the charger handle up.
  - (2) Using either your fingers or a spent case.
  - (3) Lift up on the lock plunger to retract it.
  - (4) Slide the charger assembly all the way to the rear.
  - (5) Pull the charger assembly away from the receiver.
- k. Remove the receiver sear assembly.
  - (1) Turn the receiver on its top.
  - (2) Put the safe/fire switch in FIRE position.
  - (3) Lift up slightly on the lock pin with your fingers using a cartridge link.
  - (4) Squeeze the receiver sear (underneath the safety).
  - (5) Rotate the sear housing assembly approximately 15 degrees in either direction.
 

**Note:** Squeezing the receiver sear and rotating the sear housing assembly must be performed simultaneously.
  - (6) Press down on the sear housing assembly.
  - (7) Rotate the assembly until it stops (90 degrees from its original position).
 

**Note:** Pressing down on the sear housing assembly and rotating the assembly must be performed simultaneously.
  - (8) Press the receiver sear and safety together.
  - (9) Place safe/fire switch on SAFE.
 

**Note:** Pressing the sear and safety, and putting the safe on are performed simultaneously. This locks the sear in the down position and keeps you from accidentally losing the sear spring.
  - (10) Lift out the sear housing assembly.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

ELO B - LSA 2. Learning Step / Activity ELO B - LSA 2. Clean the MK19 machine gun.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

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.

3. Clean the MK19 machine gun.

**Note:** Do not reverse the direction of the bore brush while it is in the bore.

a. Clean receiver assembly.

**Note:** The chamber is the worst carbon build-up area, and eventually gets pitted from the carbon. To clean it, your bore brush must be soaked in RBC and ran through the



- muzzle into the chamber. The process must be repeated until the muzzle is clean. When cleaning these parts, use a brush or rag dipped in a small amount of solvent.
- (1) Wipe or brush away dirt from all parts, especially the interior of receiver housing, receiver rails, and feeder.
  - (2) Apply dry cleaning solvent to wiping rag or bore cleaning brush.
  - (3) Swab out bore and chamber, using bore cleaning brush and RBC.

### **CAUTION**

**Do not immerse sear housing assembly in solvent. Solvent may dilute the lubricant inside the sear housing.**

b. Clean sear assembly.

**Note:** Wipe or brush away dirt. Only use dry cleaning solvent on a wiping rag or bore cleaning brush only!

c. Clean alignment guide assembly.

**Note:** Wipe or brush off dirt and dry.

d. Clean ogive plunger assembly and round positioning.

e. Clean charger assemblies left and right sides.

(1) Apply dry cleaning solvent to wiping rag or bore cleaning brush.

(2) Wipe or brush off dirt.

f. Clean vertical cam assembly and primary drive lever.

g. Clean secondary drive lever.

h. Clean feed slide assembly and feed tray.

i. Clean top cover assembly.

j. Clean bolt and backplate assembly.

Check on Learning:                      Conduct a check on learning and correct any student misunderstandings.

Review Summary:                         Summarize the learning objective.

ELO B - LSA 3.    Learning Step / Activity ELO B - LSA 3. Inspect the MK19 machine gun for serviceability.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

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.

4. Inspect the MK19 machine gun for serviceability.

Note: Report all deficiencies to the unit armorer.

a. Inspect receiver assembly.

(1) Check receiver housing for cracks, and rust.

(2) Check receiver rails for burrs, and cracked welds.

(3) Check feeder pawls for spring action or burrs, and pin retention.

- (4) Check barrel for carbon build up or pitting in bore or chamber.
  - (5) Check flash suppressor for dents, cracks, or erosion.
  - (6) Ensure minimal movement is maintained.
  - (7) Check rear sight parts for rust, binding, broken, or bent.
  - (8) Check dovetail bracket for cracks.
- b. Inspect the sear assembly.
- Note:** If burrs are on parts, especially the rear shoulder of the sear. Report it.
- c. Inspect alignment guide assembly.
- (1) Check alignment guide spring to see if it is deformed, cracked, or loose.
  - (2) Check the pin to see if it is cracked or broken.
- d. Inspect ogive plunger assembly and round positioning block.
- (1) Check ogive plunger head for burrs, and broken parts.
  - (2) Check the round positioning block for weak spring action, bent or burred posts.
  - (3) Ensure pins turn but do NOT have side to side or outward movement.
- e. Inspect charger assemblies left and right sides.
- (1) Check for grooved edges, burred or bent.
  - (2) Check latches for spring action on detents.
  - (3) Check entire charger assembly for cracks, burrs, bent, or chipped.
- f. Inspect vertical cam assembly and primary drive lever.
- (1) Check vertical cam assembly for bends, burrs, pits, scratches, aluminum buildup on chromed surface.
  - (2) Check drive lever lock for loose or binding.
  - (3) Check primary drive lever for Burrs.
- g. Inspect secondary drive lever.
- (1) Check retaining ring to see if it is missing from pivot post.
  - (2) Check pivot post for burrs.
  - (3) Check forked end for burrs.
- h. Inspect feed slide assembly and feed tray.
- (1) Check feed pawls for burrs or binding.
  - (2) Check feed tray for burrs or binding.
  - (3) Check guide rails for burrs.
  - (4) Check springs for excessive wear, collapsing/elongation.
  - (5) Ensure spring is properly installed.
- i. Inspect top cover assembly.
- (1) Check top cover for cracks, and rust.
  - (2) Check latch for binding, loose or broken parts.
  - (3) Check cover pin for sheared or broken crosspin.
- j. Inspect bolt and backplate assembly.
- (1) Check cocking lever for broken, chipped, or burred parts.
  - (2) Check guide rods for bent, or binding.
  - (3) Check recoil springs for weak spring action.
  - (4) Check backplate pin to see if retaining spring is missing.
  - (5) Check safety wire for loose, broken, or missing pieces.
  - (6) Check nylon tipped screws in bolt face are tightness.

(7) check left and right hand cover screws are tight.

### CAUTION

**Never lubricate the MK19 with cleaning lubricant and protectant (CLP).**

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

ELO B - LSA 4. Learning Step / Activity ELO B - LSA 4. Lubricate the MK19 machine gun.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

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.

5. Lubricate the MK19 machine gun.

**Note:** When lubricating, give extra attention to the feed pawls, the cocking lever rails, the pivot posts on the primary drive lever, and the bolt assembly. Generously lube is heavy enough to spread with your fingers. Lightly lube is barely visible to the eye.

a. Lubricate receiver assembly.

b. Lubricate sear assembly.

**Note:** In cold weather (0 to -25 degrees Fahrenheit), use LSAT, LSA, GMD, or LAW. In extra cold weather (-25 degrees Fahrenheit and below), use LAW.

c. Lubricate alignment guide assembly.

d. Lubricate ogive plunger assembly and round.

e. Lubricate charger assembly left and right side.

**Note:** Apply to all surfaces except handles. Special areas: Grooved edges of rails.

f. Lubricate vertical cam assembly and primary drive lever.

g. Lubricate secondary drive lever.

h. Lubricate feed slide assembly and feed tray.

i. Lubricate top cover assembly.

j. Lubricate bolt and backplate assembly.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

ELO B - LSA 5. Learning Step / Activity ELO B - LSA 5. Assemble the MK19 machine gun.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 15 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.

6. Assemble the MK19 machine gun.
  - a. Install the charger assemblies.
    - (1) Turn the receiver upright.
    - (2) Rotate the charger handles to the straight-up position.
    - (3) Line up the lugs on the charger with the slots in the receiver rail.
    - (4) Insert the charger lugs into the slots.
    - (5) Hold the charger tightly against the rail.
    - (6) Slide the charger forward until it locks into place.
  - b. Install the round positioning block.
    - (1) Insert the blocks into the slots with the tang end forward.
    - (2) Push against the block and slide it toward the rear until the block locks into place.
  - c. Insert the ogive plunger assembly into the opening.
  - d. Insert the alignment guide assembly.
    - (1) Position the alignment guide assembly so that the pin is lined up with the slot in the feeder wall.
    - (2) Hold the alignment guide against the front wall.
    - (3) Slide the alignment guide into the receiver until it clicks.
  - e. Install the feed tray and feed slide assembly.
    - (1) Place the tray in the top of the feeder, recessed side up.
    - (2) Lineup the pinholes on the tray with the lugs on the receiver.
    - (3) Position the feed slide assembly so that the tabs are lined up with the slots on the tray.
    - (4) Insert the tabs into the slots.
    - (5) Drop the feed slide assembly into the tray.
    - (6) Move the feed slide assembly slightly to ensure engagement.
  - f. Attach the top cover assembly.
    - (1) Ensure the feed tray is in the proper place in the receiver.
    - (2) Place the top cover on the receiver with the pinholes in line with the receiver lug end feed tray pinholes.
    - (3) Hold the top cover straight up.
    - (4) Insert the top cover pins on both sides.

#### **CAUTION**

**Fully insert the cross pin into the receiver before closing the top cover. This will prevent breaking the cross pin.**

- (5) Ensure the cross pin is fully inserted.
- (6) Rotate the top cover so that it is fully open.
- g. Engage the secondary drive lever.
  - (1) Rotate the feed slide assembly and tray upward.
  - (2) Engage the forked end of the secondary drive lever with the feed slide pin.
  - (3) Press the raised pivot post through the hole in the stop cover.

- (4) Ensure that bearing washer is correctly installed.

### **CAUTION**

**Engage the secondary drive lever with the feed slide pin, or the gun will not fire.**

- (5) Press the secondary drive lever against the top cover until it locks into place.

h. Install the vertical cam assembly.

- (1) Slide the vertical cam assembly through the rear of the receiver.

**Note:** The raised portion should slide over the top of the receiver. The drive lever lock should be underneath.

- (2) Engage the forked end in the notch.

i. Engage the primary lever.

- (1) Hold the vertical cam assembly in place.

- (2) Slide the primary drive lever into the receiver.

- (3) Slide the primary drive lever lock to the rear.

- (4) Engage the pivot post lever through the holes in the receiver and vertical cam.

- (5) Slide the drive lever lock forward.

**Note:** The primary drive lever lock is located on the vertical cam just beneath the top of the receiver.

j. Install the bolt and backplate assembly (with sear on weapon).

- (1) Place the safe/fire switch in the FIRE position.

- (2) Press the receiver sear using your thumbs or the rim of a cartridge case.

- (3) Ensure the cocking lever is cocked and forward.

- (4) Slide the bolt and backplate assembly all the way forward.

- (5) Insert the backplate pin to lock the assembly in place.

### **CAUTION**

**Before closing the top cover, always make sure the secondary drive lever engages the feed slide pin, the feed slide assembly is to the left, and the bolt is forward. Never try to force the top cover closed. Doing so could damage the weapon.**

- (6) Close the cover.

**NOTE:** The cocking lever should be in the forward position before inserting the bolt and backplate.

k. Install the bolt and backplate assembly (without sear on weapon).

- (1) Ensure cocking lever is cocked forward.

- (2) Insert bolt and backplate assembly into receiver.

- (3) Insert backplate pin to lock assembly in place.

- (4) Close cover.

l. Install the receiver sear assembly.

- (1) Turn the receiver over on its top.

- (2) Place the sear housing on the receiver.

- (3) Line up the sear housing assembly at a right angle to the barrel center line.

(4) Put the safe/fire switch on FIRE position.

(5) Press down the housing assembly.

(6) Rotate the housing assembly until it stops.

**Note:** Pressing down the housing assembly and rotating the housing assembly must be done simultaneously.

(7) Press up on the sear.

(8) Rotate the sear until it locks into place.

**Note:** Pressing up on the sear and rotating on it must be done simultaneously.

m. Attach the feed throat assembly.

(1) Squeeze the plunger.

(2) Align pins with the holes in the receiver.

(3) Release the plunger to reattach the feed throat.

### **WARNING**

**Before performing any procedure, ensure the weapon is clear of any ammunition.**

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

ELO B - LSA 6. Learning Step / Activity ELO B - LSA 6. Perform a Function Check.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

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.

7. Perform a Function Check.

a. Check functioning with safety on SAFE then on FIRE.

(1) Put safety in SAFE position, with top cover closed.

(2) Pull bolt to rear.

(3) Push charger handles back to forward position.

(4) Rotate charger handles up.

(5) Press trigger. Bolt should not go forward.

(6) Put safety in FIRE position.

(7) Press trigger. Bolt should spring forward.

**Note:** As bolt is under spring pressure, do not release it any more than necessary to test functioning of firing pin. 'DRY FIRING' causes wear on internal components.

However it should be stored with firing pin protruding or un-cocked so that the firing pin spring does not stay compressed for extended periods of time. This causes weakening of the firing pin spring which results in premature failure.

- (8) Put safety in SAFE position.
- (9) Leave bolt in forward position and continue.
- b. Check feed slide assembly and feeder.
  - (1) Move secondary drive lever back and forth. Feed slide assembly should move freely.
  - (2) Press the pawls to check spring action.
  - (3) Inspect link guide for roughness and galling.

**CAUTION**

**Before closing top cover always be certain the secondary drive lever is engaged with feed slide pin, feed slide assembly is to the left, and bolt is forward. Never attempt to force top cover closed. Equipment damage could result. Do not slam cover shut.**

- (4) Close top cover.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

ELO B - LSA 7. Learning Step / Activity ELO B - LSA 7. Maintain T&E mechanism, tripod, and ammunition.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

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.

- 8. Maintain T&E mechanism.
  - a. Clean the T&E mechanism.
    - (1) Wipe all visible dirt from the T&E.
    - (2) Clean all parts using a swab saturated with cleaning compound.
    - (3) Use a small-arms cleaning brush to clean numbers on the scale.
    - (4) Lubricate the spring lightly.
  - b. Inspect the T&E mechanism.
    - (1) Inspect all parts.
    - (2) Report deficiencies to unit maintenance.
  
- 9. Maintain M3 tripod.
  - a. Clean the M3 tripod.
    - (1) Wipe all visible dirt from the tripod.
    - (2) Clean all parts using a swab saturated with cleaning compound.
    - (3) Inspect all parts.
    - (4) Lubricate the spring lightly.
  - b. Inspect the M3 tripod.

- (1) Inspect all parts.
- (2) Report deficiencies to unit maintenance.

10. Maintain Ammunition.

**Note:** The basic care of ammunition is to keep it clean and dry.

**CAUTION**

**Do not coat ammunition or links with oil.**

- a. Clean ammunition by wiping with a clean dry cloth to remove all dirt and foreign matter.
- b. Inspect ammunition prior to use.
  - (1) Look for serious corrosion.
  - (2) Look for dented cases.
  - (3) Look for loose rounds.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

**CHECK ON LEARNING (ELO B):** Conduct a check on learning and correct any student misunderstandings.

**REVIEW SUMMARY(ELO B):** Summarize the learning objective.

**C. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Mount an MK 19 Grenade Machine Gun on an M3 Tripod.
<b>CONDITIONS:</b>	As a gunner, given an MK 19 grenade machine gun, an M3 tripod, a feed throat assembly, a MK64 gun mount, a traversing and elevation (T&E) mechanism and an assistant. You have been directed to mount an MK 19 grenade machine gun on an M3 tripod.
<b>STANDARDS:</b>	Clear the MK 19 grenade machine gun, set up the M3 tripod, Secure the MK 19 grenade machine gun to the MK64 gun mount on the M3 tripod, and attach the feed throat assembly to the feeder.

ELO C - LSA 1. Learning Step / Activity ELO C - LSA 1. Set up the M3 tripod.

Method of Instruction: Conference/Demonstration  
 Instr Type(I:S Ratio/Qty): instructor(4:32/0)  
 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.

- 1. Clear the MK 19 grenade machine gun.



2. Set up the M3 tripod.
  - a. Emplace the tripod.
    - (1) Rotate the front leg fully forward.
    - (2) Place the tripod down in position with the front leg pointing in the direction that the muzzle of the gun will be pointing.
    - (3) Expand the two rear legs until the sleeve latch locks in position.
    - (4) Adjust the length of the legs.
      - (a) Loosen the manual control handle.
      - (b) Apply pressure to the manual control lever.
      - (c) Extend leg to desired length.
      - (d) Align a hole in lower leg section with hole in upper leg section.
      - (e) Release manual control lever allowing the stud on lever to lock leg sections together.
      - (f) Tighten manual control handle.
    - (5) Stabilize the tripod legs in to position by using one of the following means.
      - (a) Stomp the legs into the ground.
      - (b) Place sandbags on each leg.
  - b. Attach the MK 64 gun mount.
    - (1) Secure the MK 64 gun mount to the tripod.
      - (a) Disengage the pintle lock.
      - (b) Insert the MK64 mount.
      - (c) Reengage the pintle lock.
    - (2) Pull up on the pintle to ensure it is securely locked in place.
  - c. Attach the traversing and elevating (T&E) Mechanism.
    - (1) Center the T&E Mechanism by turning the elevating and the traversing knob until they each appear to be centered.
    - (2) Secure the T&E mechanism to the center of the traverse bar.
      - (a) Lower the T&E sleeve over the traverse bar.
      - (b) Ensure the traverse lever is to the rear.
      - (c) Tighten the traverse lever.
  - d. Connect the MK 64 gun mount to the T&E mechanism.
    - (1) Disengage the stow pin from the MK 64 gun mount.
    - (2) Align the gun cradle holes on the gun mount to the holes on the T&E mechanism.
    - (3) Connect MK 64 to T&E mechanism by inserting the quick release pin through holes.

### **WARNING**

**A two-man lift is required for the MK 19 machine gun. One soldier holds the barrel while another holds the control grips. The one holding the grips stands between the trail legs of the tripod; the other straddles the front leg. The soldiers lift the MK 19, barrel first, onto the cradle.**

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

ELO C - LSA 2. Learning Step / Activity ELO C - LSA 2. Secure the MK 19 grenade machine gun to the MK 64 gun mount on the M3 tripod.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

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.

3. Secure the MK 19 grenade machine gun to the MK 64 gun mount on the M3 tripod.

a. Lower the grenade machine gun onto the gun mount.

b. Slide the gun's front grooves onto the mounting lugs.

c. Align the rear mounting holes of the gun with the rear holes of the gun mount.

d. Secure the gun to the cradle.

(1) Insert the gun mount pin from the right side.

(2) Rotate the pin downward to the locked position.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

ELO C - LSA 3. Learning Step / Activity ELO C - LSA 3. Attach the feed throat assembly to feeder.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

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.

4. Attach the feed throat assembly to feeder.

a. Squeeze the spring-loaded pins.

b. Insert the feed throat into the forward left-hand slots of the receiver.

c. Ensure the feed throat snaps into place.

d. Release the pins.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

**CHECK ON LEARNING (ELO C):** Conduct a check on learning and correct any student misunderstandings.

**REVIEW SUMMARY(ELO C):** Summarize the learning objective.

**D. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Load an MK 19 Grenade Machine Gun.
<b>CONDITIONS:</b>	As a gunner, given a MK19 grenade machine gun, mounted on a tripod or vehicle, with linked 40mm grenade ammunition, and a 40mm ammunition can. You have been directed to load the weapon.
<b>STANDARDS:</b>	Clear the weapon, attach feed throat to feeder, insert round, load round and place weapon on safe.

ELO D - LSA 1. Learning Step / Activity ELO D - LSA 1. Attach feed throat to feeder.

Method of Instruction: Conference/Demonstration  
 Instr Type(I:S Ratio/Qty): instructor(4:32/0)  
 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.

1. Clear the weapon.

**WARNING**

**While loading, the bolt must be forward. If the bolt is not forward, take gun off SAFE and ease charger handles forward. Do not let top cover slam shut from open position.**

2. Attach feed throat to feeder.

**Note:** The feed throat prevents the linked rounds from twisting as they pass from the ammunition can into the MK19 receiver during firing. The major contributor to the MK19 jamming is ammo being separated by twisting the ammo belt, causing the ammo link to become misaligned. After the ammo belt has been separated, the ammo link should be aligned evenly and touching the copper band all around the ammo.

- a. Squeeze the spring-loaded pins on feed throat.
- b. Insert into the slots on both sides of the feeder.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

ELO D - LSA 2. Learning Step / Activity ELO D - LSA 2. Insert a round.

Method of Instruction: Conference/Demonstration  
 Instr Type(I:S Ratio/Qty): instructor(4:32/0)  
 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.

3. Insert a round.

**Note:** When using a vehicle mount, attach ammunition can bracket and can. When using a ground tripod mount, feed the ammunition directly from the can.

- a. Open the top cover assembly.
- b. Insert the round through the feed throat (female first) into the feeder.
- c. Push the round across the first set of feeder pawls.
- d. Ensure the round is straight and firmly seated against the bolt.
- e. Push the secondary drive lever to the right.

**Note:** This moves the feed slide to the left.

- f. Close the top cover assembly.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

ELO D - LSA 3. Learning Step / Activity ELO D - LSA 3. Load the first round to the fully-loaded position.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

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.

4. Load the first round to the fully-loaded position.

a. Charge the weapon.

(1) Lower both charger handles.

(2) Pull both charger handles to the rear ensuring the bolt locks to the rear.

(3) Return both charger handles to the forward position.

b. Place safety switch in FIRE position.

c. Squeeze the trigger allowing the bolt to slam forward.

d. Rotate both charger handles down.

e. Pull both charging handles to the rear.

**Note:** This moves the round down the curved rail on the vertical cam assembly. It forces the round down the bolt face out of the extractors into the bolt fingers (position for firing - full load).

f. Return both charging handle to the forward and up position.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

ELO D - LSA 4. Learning Step / Activity ELO D - LSA 4. Place safety switch in SAFE position.

Method of Instruction: Conference/Demonstration  
 Instr Type(I:S Ratio/Qty): instructor(4:32/0)  
 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.

5. Place safety switch in SAFE position.

**Note: The weapon is now ready to fire.**

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

**CHECK ON LEARNING (ELO D):** Conduct a check on learning and correct any student misunderstandings.

**REVIEW SUMMARY(ELO D):** Summarize the learning objective.

**E. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Zero an MK 19 Grenade Machine Gun.
<b>CONDITIONS:</b>	As a gunner, given an MK 19 grenade machine gun mounted on a vehicle or M3 tripod with an installed T&E assembly, a target at 300 and 700 meters (400 meters is preferred), and 4 rounds of linked 40-mm ammunition, you have been directed to zero the MK19.
<b>STANDARDS:</b>	Fire the MK 19 and adjust the rear sight to ensure 2 out of 4 rounds impact within 5 meters of the point of aim.

ELO E - LSA 1. Learning Step / Activity ELO E - LSA 1. Zero the MK19.

Method of Instruction: Conference/Demonstration  
 Instr Type(I:S Ratio/Qty): instructor(4:32/0)  
 Time of Instruction: 0 hrs 30 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.

1. Prepare the rear sight for zeroing.

**Note:** All machine guns should be zeroed at actual range at between 300 and 700 meters. A range of 400 meters is recommended for the MK 19. Gunners must rezero every time the type of ammunition is changed (e.g., from M430 to M385).

a. Raise the rear sight.

(1) Press the plunger to release the sight frame.

- (2) Raise the sight frame until it locks into the "up" position.
- b. Adjust the range plate.
  - (1) Loosen the range plate screw.
  - (2) Move the range plate midpoint between the two studs.
  - (3) Tighten the range plate screw.
- c. Adjust the rear sight slide.
  - (1) Loosen the retainer lock nut.
  - (2) Move the rear sight slide to the 400 meter mark by pushing in on the lock nut to.
  - (3) Tighten the retainer lock nut.
- d. Set elevation to precisely the 400 meter mark by turning the elevation wheel.
- e. Set windage to the zero index line by turning the windage screw.
- 2. Establish a good zero firing position and sight picture.
  - a. Load the MK 19.
  - b. Assume a tripod-supported or vehicle-supported firing position.
  - c. Identify the zero target.
  - d. Establish a good sight picture.
  - e. Align the sights with the base of the target by manipulating the T&E mechanism.
    - (1) Make adjustments using the traversing handwheel.
    - (2) Make adjustments using the elevation handwheel.
- 3. Establish the zero.
  - a. Place the safety in the F (Fire) position.
  - b. Move both charging handles to the forward and up position.
  - c. Aim at the center base of the target.
  - d. Fire a single 40-mm round at the center base of the target.
  - e. Observe where the round impacts.
    - (1) Proceed to step 5, confirm zero, if the round strikes the target.
    - (2) Proceed to step 4, adjust the sight, if the round misses the target.
- 4. Adjust the sight.
 

**Note:** Two clicks equals 1 mil.

  - a. Adjust for elevation.
    - (1) Turn the knob of the elevating wheel clockwise to move the impact of the round up onto the target if the round is short.
    - (2) Turn the knob of the elevating wheel counterclockwise to move the impact of the round down onto the target if the round is long.
  - b. Adjust for windage.
    - (1) Adjust the sight to the left by turning the windage knob counterclockwise to move the impact of the round onto the target if the round is to the right.
    - (2) Adjust the sight to the right by turning the windage knob clockwise to move the impact of the round onto the target if the round is to the left.
    - (3) Loosen the traversing slide lock lever to adjust the gun back onto the target.
    - (4) Retighten the traversing slide lock lever, before you fire the next round.
  - c. Return to step 3, establish the zero.
- 5. Confirm the zero.
  - a. Aim at the center base of the target.

- b. Fire a single round burst at the center base of the target.
- c. Observe where the burst strikes.
  - (1) Repeat step 4, adjust sight, if the round misses the point of aim.
  - (2) Cease Fire, zero is confirmed, if the round impacts within 5 meters of the point of aim.

**Note:** You should fire all 4 rounds to ensure a good zero.

- 6. Record the zero.
  - a. Record your elevation (range) by adjusting the range plate to the zero.
    - (1) Loosen the range plate screw.
    - (2) Align the range plate scale at the exact range to the target.
    - (3) Tighten the range plate scale.
  - b. Record the windage.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

**CHECK ON LEARNING (ELO E):** Conduct a check on learning and correct any student misunderstandings.

**REVIEW SUMMARY(ELO E):** Summarize the learning objective.

**F. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Engage Targets with an MK 19 Grenade Machine Gun
<b>CONDITIONS:</b>	As a gunner, given a zeroed MK 19 grenade machine gun (tripod or vehicular mounted), linked 40-mm ammunition, and stationary or moving targets (personnel or equipment) at engageable ranges. You have been directed to engage targets.
<b>STANDARDS:</b>	Detect targets, assume an appropriate firing position, determine range to targets, identify target(s) as threat and non-threat target(s), and determine how to engage the target(s). Fire the machine gun using appropriate aiming and engagement techniques to ensure each target is hit or suppressed.

ELO F - LSA 1. Learning Step / Activity ELO F - LSA 1. Engage Targets with the MK 19 Machine Gun.

Method of Instruction: Conference/Demonstration  
 Instr Type(I:S Ratio/Qty): instructor(4:32/0)  
 Time of Instruction: 0 hrs 20 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.

- 1. Detect targets.
 

**Note:** Detection of targets depends on your position, your skill in scanning, and your ability to observe the area and recognize target indicators.
- 2. Assume an appropriate firing position.

**Note:** An appropriate firing position and your physical position will be based on the situation. Your position should protect you from enemy fire and observation, yet allow you to place effective fire on targets in your sector of fire. Your physical position may vary from a fixed location to a temporary location during movement.

3. Determine range to targets.

**Note:** Two methods of range estimation are the 100-meter unit of measure method and the appearance of objects method.

4. Identify targets as threat and non-threat targets.

5. Determine how to engage the target(s).

**Note:** Gunners engage targets throughout their respective sectors through the application of machine gun fire onto the target. Gunners apply fire to the target after determining (or after their leaders determine) the class of fire and the rate of fire that is best for the type of target. These factors are often determined simultaneously and often change during the course of fire.

a. Determine the type of target (point or area).

b. Select the class of fire.

c. Select the rate of fire.

6. Fire on targets using appropriate aiming and engagement techniques.

a. Set the elevation to the appropriate range mark.

b. Obtain a correct sight picture.

c. Fire the weapon using 6 to 9 round bursts.

d. Apply appropriate machine gun engagement techniques.

**Note:** Machine gun engagement techniques include fixed fire, traversing fire, searching fire, and traversing and searching fire.

e. Adjust grenade fire based on observation of fire and type of target.

**Note:** There are two methods to adjust fire. The sight adjustment method and the adjusted aiming point method.

f. Fire on the targets until they are destroyed, suppressed, or you receive an order to cease fire.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

**CHECK ON LEARNING (ELO F):** Conduct a check on learning and correct any student misunderstandings.

**REVIEW SUMMARY(ELO F):** Summarize the learning objective.

**G. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Correct Malfunctions of an MK 19 Grenade Machine Gun.
<b>CONDITIONS:</b>	As a gunner, given a MK 19 grenade machine gun, that has malfunctioned while firing. You have been directed to correct the malfunctions on the MK 19 grenade machine gun.
<b>STANDARDS:</b>	



	Take immediate actions to correct a failure to fire, a runaway weapon, and perform remedial actions on the MK 19 grenade machine gun. Report deficiencies not correctable at operator level to supervisor.
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ELO G - LSA 1. Learning Step / Activity ELO G - LSA 1. Correct Malfunction of the MK 19 Machine Gun.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

Time of Instruction: 0 hrs 20 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.

1. Take immediate action to correct a failure to fire.

**Note:** Immediate action is only performed once for a stoppage. If any immediate actions cannot be fully completed; such as the bolt will not pull to the rear, nothing ejects, or the charger handles will not lock in the up position, remedial action is performed. In a noncombat environment, immediate area should be cleared of personnel and an assistant should be used to catch any round that is ejected upon pulling the charger handles to the rear. The key words pull, observe, push, squeeze (POPS) will help you remember the steps for immediate action.

- a. Pull the charger handles to the rear.
- b. Observe the ejection port to see if a case, link, or round ejects.
- c. Push the charger handles forward to the up position.
- d. Squeeze the trigger.

**WARNING**

**Never try to break the ammo belt with your hands. Injury could result.**

2. Take immediate action to secure a runaway weapon.

**Note:** A runaway weapon or uncontrolled fire is when the weapon continues to fire after the trigger has been released.

- a. Keep the weapon oriented on the target area.
- b. Allow all remaining rounds in the loaded belt to fire or stop the ammunition feed by pressing the charger handle locks and lowering the charging handle(s) to disrupt the cycle of firing.
- c. Place the gun on S (SAFE).
- d. Perform corrective action on a runaway weapon.
  - (1) Wait 5 minutes to allow the barrel to cool.
  - (2) Load the MK 19.
  - (3) Engage targets.
  - (4) Take remedial action on the MK 19 if the uncontrolled firing continues.

3. Perform remedial action to correct a failure to fire.

**Note:** Remedial action is needed if, after applying immediate action it did not correct

the failure to fire.

- a. Place the safety switch to the S (SAFE) position.
- b. Keep the weapon oriented on the target area.
- c. Remove the case catch bag, if applicable.
- d. Charge the weapon.

(1) Lower both charger handles.

(2) Pull both charger handles to the rear ensuring the bolt locks to the rear.

**Note:** If bolt will not lock to the rear then the gunner must hold the bolt to the rear as the assistant gunner removes the live round or spent case, if present.

(3) Return both charger handles to the forward position.

(4) Rotate only one charger handle up.

e. Remove live round or spent case from the bolt, if present.

(1) Insert the tip of a cleaning rod through the receiver rail as close to the bolt face as possible.

(2) Place the tip of the cleaning rod on top of the live round or spent case, as close to the bolt face as possible.

(3) Position one hand beneath the weapon to catch the round as it falls out.

(4) Force the live round off the bolt face and out the bottom of the gun by pushing down on the cleaning rod.

(5) Catch the live round as it falls out.

(6) Dispose of the live round as per unit standard operating procedure (SOP).

**Note:** Do not reuse a live round that has been cycled through the weapon and removed from the bolt.

f. Inspect removed round.

(1) Check the primer to see if it is indented or not.

(2) Proceed to step, load the MK19, if the primer is indented, as this indicates bad round.

**Note:** Dispose of bad round IAW unit policies.

(3) Continue remedial action, after recording the MK 19 has a bad firing pin, if the primer is not indented.

### **WARNING**

**If the bolt jams during firing, do not let the bolt slam forward as the top cover is being opened because a round could fire.**

g. Open the top cover assembly.

h. Remove linked rounds and any loose links from the feeder, if present.

(1) Reach beneath the feed tray with one hand.

(2) Press and hold both the primary and secondary positioning pawls.

(3) Slide the linked rounds out of the feeder and out the feed throat.

(4) Return the linked rounds to the ammunition can.

i. Return the bolt to the forward position.

(1) Place the safety switch on F (FIRE).

(2) Hold one charger handle to the rear.

(3) Ride the bolt forward by squeezing the trigger and easing the bolt forward.

(4) Ensure both charger handles are forward and up position.

(5) Place the safety switch on S (SAFE).

j. Check for an obstructed bore, if suspected.

**Note:** Indicators of a bore obstruction are: (1) a muffled sound of round firing; (2) excess smoke out of the chamber area; or (3) excess debris/gases below gun). The preferred method for checking the bore is by running the bore obstruction detector from the top of the receiver through the barrel until it protrudes from the muzzle. However, the bore obstruction detector may also be feed from the bottom of the receiver. The bolt must be to the rear to use the bore obstruction detector from the bottom.

### **WARNING**

**Do not transport weapon with projectile lodged in bore.**

(1) Conduct deliberate check for an obstructed bore.

(a) Remove the backplate pin, bolt, and backplate assembly, vertical cam assembly, and primary drive lever.

(b) Observe the bore for any type of bore obstruction.

(2) Conduct rapid check for an obstructed bore.

(a) Insert the bore obstruction detector (weighted end first) into the chamber end of the barrel.

(b) Snake the bore obstruction detector into the barrel.

**Note:** If the cable stops feeding, pull it back, and push it forward again. If the cable can't be pushed forward any further, you have a bore obstruction.

### **WARNING**

**Only trained and qualified personnel should engage in the removal and recovery of the round.**

### **CAUTION**

**Do not use round removal tool to remove a spent case lodged in the bore.**

**Damage to barrel and tool will occur. The round removal tool is used to extract a complete round or a separated round that is lodged in the barrel.**

k. Remove bore obstruction, if present, using the round removal tool.

(1) Place round removal tool collar over end of flash suppressor.

(2) Screw five cap screws into slots of the suppressor.

(3) Attach either end of handle to the end of the threaded rod.

(4) Screw threaded rod into barrel.

(5) Push out bore obstruction.

(6) Catch projectile with both hands as it is forced from the barrel.

(7) Carefully dispose of live projectile as per unit SOP.

l. Inspect linked ammunition belt.

(1) Check that the link band is even and adjacent to copper band all around ammo.

(2) Check that the female link is positioned to be loaded first.

## WARNING

**Do not relink or fire any ammunition that has been cycled through the weapon.**

- (3) Remove the first round from belt if there is any indication of a bad link.
- m. Load the MK 19, if the MK 19 has no uncorrected faults.
- n. Attempt to fire the MK 19, if the MK 19 has no uncorrected faults.
- 4. Report deficiencies not correctable at the operator level to the supervisor.
  - a. Turn-in the MK 19 for service.
  - b. Record any identified fault that cannot be corrected.

Check on Learning:                      Conduct a check on learning and correct any student misunderstandings.

Review Summary:                        Summarize the learning objective.

**CHECK ON LEARNING (ELO G):**      Conduct a check on learning and correct any student misunderstandings.

**REVIEW SUMMARY(ELO G):**          Summarize the learning objective.

### H.            **ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Dismount an MK 19 Grenade Machine Gun from an M3 Tripod.
<b>CONDITIONS:</b>	As a gunner, given a MK 19 grenade machine gun mounted on an M3 tripod using a MK 64 gun mount, a feed throat assembly, a traversing and elevation (T&E) mechanism, a storage bag, and an assistant. You have been directed to dismount a MK 19 grenade machine gun from an M3 tripod.
<b>STANDARDS:</b>	Clear the MK 19 grenade machine gun, remove the feed throat assembly, remove the MK 19 from the M3 tripod, dismantle the M3 tripod, and store the MK 64 gun mount, feed throat assembly, and traversing and elevation (T&E) mechanism, and the M3 tripod.

ELO H - LSA 1.    Learning Step / Activity ELO H - LSA 1. Dismount the MK 19 Machine Gun from the M3 Tripod.

Method of Instruction: Conference/Demonstration

Instr Type(I:S Ratio/Qty): instructor(4:32/0)

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.

1. Clear the MK 19 grenade machine gun.
2. Remove the feed throat assembly.
  - a. Squeeze the spring loaded pins on the feed throat assembly.
  - b. Pull the feed throat assembly away from the receiver.

## **WARNING**

**A two-man lift is required for the MK 19 machine gun. One soldier holds the barrel while another holds the control grips. The one holding the grips stands between the trail legs of the tripod; the other straddles the front leg. The soldiers lift the MK 19, barrel first, onto the cradle.**

3. Remove machine gun from the M3 tripod.
  - a. Remove the gun from the cradle.
    - (1) Rotate the retaining pin upward to the unlocked position.
    - (2) Pull the pin out.
  - b. Slide the gun slightly rearward to disengage the front grooves from the mounting lugs.
  - c. Lift the machine gun off the tripod.
4. Disassemble the M3 tripod.
  - a. Disconnect the MK64 gun mount from the traversing and elevating (T&E) mechanism.
    - (1) Pull the quick release pin through the holes on both the MK 64 and the T&E mechanism.
    - (2) Ensure the gun mount and T&E mechanism separate.
    - (3) Insert the stow pin back into the MK 64 gun mount only.
  - b. Remove the T&E Mechanism.
    - (1) Loosen the traverse lever.
    - (2) Lift the T&E sleeve from the traverse bar.
  - c. Remove the MK 64 gun mount from the M3 tripod.
    - (1) Disengage the pintle lock.
    - (2) Lift the MK64 gun mount out of the M3 pintle bushing.
    - (3) Reengage the pintle lock.
  - d. Collapse the tripod.
    - (1) Fold the two rear legs.
      - (a) Press the sleeve latch lock inward.
      - (b) Push the legs together.
    - (2) Rotate the front leg fully backward.
5. Store the MK 64 gun mount, feed throat assembly, and T&E mechanism in the storage bag.
6. Store the tripod.

Check on Learning: Conduct a check on learning and correct any student misunderstandings.

Review Summary: Summarize the learning objective.

**CHECK ON LEARNING (ELO H):** Conduct a check on learning and correct any student misunderstandings.

**REVIEW SUMMARY(ELO H):** Summarize the learning objective.

## SECTION IV. SUMMARY

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Method of Instruction:	Conference/Discussion
Instr Type(I:S Ratio/Qty):	instructor(4:32/0)
Time of Instruction:	5 mins
Instructional Strategy:	Large Group Instruction

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### **Check on Learning**

Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

### **Review/ Summary**

You were trained how to maintain, load, engage targets, unload, and correct malfunctions on the MK19 Machine Gun.

It is important that you remember all of these skills as you may be required to properly use the MK19 as a member of your future unit.

## 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**

**MK19, 40mm Machine Gun  
071-SAWE05 / 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-SAWE05 Version 1.0

PRACTICAL EXERCISE SHEET 071-SAWE05 PE1

**Title** Unload the MK 19 Machine Gun.  
**Lesson Number/Title** 071-SAWE05 Version 1.0 / MK19, 40mm Machine Gun

**Security Classification** Unclassified

**Introduction** You are required to unload the MK 19 Machine Gun.

**Motivator** You must be able to safely unload the MK 19 machine gun.

**Enabling Learning Objective** **NOTE.** The instructor should inform the students of the following Enabling Learning Objective covered by this practical exercise. (ELO ELO A)  
At the completion of this lesson, you [the student] will:

Action:	Unload an MK 19 Grenade Machine Gun.
Conditions:	As a gunner, given a MK 19 grenade machine gun, mounted on a tripod or vehicle, loaded with linked 40mm grenade ammunition, and a 40mm ammunition can. You have been directed to unload the weapon.
Standards:	Place the safety switch to safe, remove the case catch bag, charge the weapon, remove all live rounds or spent cases from the bolt, open the top cover, remove linked rounds from the feeder, return the bolt to the forward position and place the safety switch in the S position.

**Safety Requirements** In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, NBC Protection, FM 3-11.5, CBRN Decontamination. Everyone is responsible for safety. A thorough risk assessment must be completed prior to every mission or operation.

**Risk Assessment Level** None

**Environmental Considerations** **NOTE:** Instructor should conduct a Risk Assessment to include Environmental Considerations IAW FM 3-100.4, Environmental Considerations in Military Operations, Appendix G, and ensure students are briefed on hazards and control measures.  
Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during

training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects.

**Evaluation**

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

**Instructional Lead-in**

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.

**Resource Requirements**

*Instructor Materials:*

See the lesson plan resources.

*Student Materials:*

See the lesson plan resources.

**Special Instructions**

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

**Procedures**

Break the students down into 8 man groups, have each group cover down on one machine gun. One Instructor will grade each student individually.

**Feedback Requirements**

The students will receive timely feedback from the instructors during all practical exercises, hands-on performance evaluations, and written examinations. The student will be counseled (positive and/or negative) based on their performance on evaluations and classroom participation.

**SOLUTION FOR  
PRACTICAL EXERCISE 071-SAWE05 PE1**

**PERFORMANCE MEASURES**

1. Placed the safety switch to S (SAFE).
2. Removed the case catch bag, if applicable.
3. Charged the weapon.
4. Removed live round or spent case from the bolt, if present.
5. Opened the top cover assembly.
6. Removed linked rounds from the feeder, if present.
7. Returned the bolt to the forward position.
8. Placed the safety switch in the S position.

**PRACTICAL EXERCISE SHEET 071-SAWE05 PE2**

**Title** Maintain a MK19 Machine Gun.

**Lesson Number/Title** 071-SAWE05 Version 1.0 / MK19, 40mm Machine Gun

**Security Classification** Unclassified

**Introduction** You will be required to clear, disassemble, reassemble, and perform a function check of the MK19.

**Motivator** You must be able to maintain a MK 19 to ensure you are ready to engage targets.

**Enabling Learning Objective** **NOTE.** The instructor should inform the students of the following Enabling Learning Objective covered by this practical exercise. (ELO ELO B)  
At the completion of this lesson, you [the student] will:

Action:	Maintain an MK19 Grenade Machine Gun, Tripod, and Ammunition.
Conditions:	As a gunner, given a MK 19 grenade machine gun, M3 tripod, pintle, traversing and elevating (T&E) mechanism, linked 40-mm ammunition, appropriate lubricants (lubricant semifluid automatic weapons (LSA), lubricant small arms with teflon (LSAT), grease molybdenum disulfide (GDM), lubricant arctic weather (LAW)), rifle bore cleaner (RBC), bore brush, wiping rags, MK 19 cleaning rod, cleaning swabs and the unit standing operating procedures (SOP). You have been directed to maintain a MK19.
Standards:	Clear, disassemble, clean, inspect, lubricate, assemble, and perform a function check on the MK 19 grenade machine gun. Maintain the T&E mechanism, M3 tripod, and ammunition.

**Safety Requirements** In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, NBC Protection, FM 3-11.5, CBRN Decontamination. Everyone is responsible for safety. A thorough risk assessment must be completed prior to every mission or operation.

**Risk Assessment Level** None

**Environmental Considerations** **NOTE:** Instructor should conduct a Risk Assessment to include Environmental Considerations IAW FM 3-100.4, Environmental Considerations in Military Operations, Appendix G, and ensure

students are briefed on hazards and control measures.

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

**Evaluation**

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

**Instructional Lead-in**

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.

**Resource Requirements**

*Instructor Materials:*

See the lesson plan resources.

*Student Materials:*

See the lesson plan resources.

**Special Instructions**

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

**Procedures**

Break the students down into 8 man groups, have each group cover down on one machine gun. One Instructor will grade each student individually.

**Feedback Requirements**

The students will receive timely feedback from the instructors during all practical exercises, hands-on performance evaluations, and written examinations. The student will be counseled (positive and/or negative) based on their performance on evaluations and classroom participation.

**SOLUTION FOR  
PRACTICAL EXERCISE 071-SAWE05 PE2**

**PERFORMANCE MEASURES**

1. Cleared the MK19 machine gun.
2. Disassembled the MK19 machine gun.
3. Cleaned the MK19 machine gun.
4. Inspected the MK19 machine gun for Serviceability.
5. Lubricated the MK19 machine gun.
6. Assembled the MK19 machine gun.
7. Performed Function Check.
8. Maintained T&E Mechanism.
9. Maintained M3 Tripod.
10. Maintained Ammunition.

**PRACTICAL EXERCISE SHEET 071-SAWE05 PE3**

**Title** Mount an MK19 on an M3 Tripod.

**Lesson Number/Title** 071-SAWE05 Version 1.0 / MK19, 40mm Machine Gun

**Security Classification** Unclassified

**Introduction** You will be required to mount an MK19 machine gun to an M3 tripod.

**Motivator** IN OUR CURRENT OPERATIONAL ENVIRONMENT A SOLDIERS SURVIABILITY DEPENDS ON THE PROFICIENCY, AND CONFIDENCE IN THEIR ABILITY TO APPLY THE FUNDAMENTALS OF ENGAGING TARGETS, MAKING A MORE LETHAL, AND DEADLY COMBINATION DURING COMBAT.

**Enabling Learning Objective** **NOTE.** The instructor should inform the students of the following Enabling Learning Objective covered by this practical exercise. (ELO ELO C)  
At the completion of this lesson, you [the student] will:

Action:	Mount an MK 19 Grenade Machine Gun on an M3 Tripod.
Conditions:	As a gunner, given an MK 19 grenade machine gun, an M3 tripod, a feed throat assembly, a MK64 gun mount, a traversing and elevation (T&E) mechanism and an assistant. You have been directed to mount an MK 19 grenade machine gun on an M3 tripod.
Standards:	Clear the MK 19 grenade machine gun, set up the M3 tripod, Secure the MK 19 grenade machine gun to the MK64 gun mount on the M3 tripod, and attach the feed throat assembly to the feeder.

**Safety Requirements** In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, NBC Protection, FM 3-11.5, CBRN Decontamination. Everyone is responsible for safety. A thorough risk assessment must be completed prior to every mission or operation.

**Risk Assessment Level** None

**Environmental Considerations** **NOTE:** Instructor should conduct a Risk Assessment to include Environmental Considerations IAW FM 3-100.4, Environmental Considerations in Military Operations, Appendix G, and ensure students are briefed on hazards and control measures.  
Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during



training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects.

**Evaluation**

Grade the Soldiers using the task performance measures.

Retrain Soldiers who do not receive a GO.

Re-test Soldiers until they achieve a GO.

**Instructional Lead-in**

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.

**Resource Requirements**

*Instructor Materials:*

See the lesson plan resources.

*Student Materials:*

See the lesson plan resources.

**Special Instructions**

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

**Procedures**

Break the students down into 8 man groups, have each group cover down on one machine gun. One Instructor will grade each student individually.

**Feedback Requirements**

The students will receive timely feedback from the instructors during all practical exercises, hands-on performance evaluations, and written examinations. The student will be counseled (positive and/or negative) based on their performance on evaluations and classroom participation.

**SOLUTION FOR  
PRACTICAL EXERCISE 071-SAWE05 PE3**

**PERFORMANCE MEASURES**

1. Cleared the MK 19 grenade machine gun.
2. Set up the M3 tripod.
3. Secured the MK 19 grenade machine gun to the MK 64 gun mount on the M3 tripod.
4. Attached the feed throat assembly to the feeder.

**PRACTICAL EXERCISE SHEET 071-SAWE05 PE4**

**Title** Load the MK19.

**Lesson Number/Title** 071-SAWE05 Version 1.0 / MK19, 40mm Machine Gun

**Security Classification** Unclassified

**Introduction** You will be required to load the MK19.

**Motivator** IN OUR CURRENT OPERATIONAL ENVIRONMENT A SOLDIERS SURVIABILITY DEPENDS ON THE PROFICIENCY, AND CONFIDENCE IN THEIR ABILITY TO APPLY THE FUNDAMENTALS OF ENGAGING TARGETS, MAKING A MORE LETHAL, AND DEADLY COMBINATION DURING COMBAT.

**Enabling Learning Objective** **NOTE.** The instructor should inform the students of the following Enabling Learning Objective covered by this practical exercise. (ELO ELO D)  
At the completion of this lesson, you [the student] will:

Action:	Load an MK 19 Grenade Machine Gun.
Conditions:	As a gunner, given a MK19 grenade machine gun, mounted on a tripod or vehicle, with linked 40mm grenade ammunition, and a 40mm ammunition can. You have been directed to load the weapon.
Standards:	Clear the weapon, attach feed throat to feeder, insert round, load round and place weapon on safe.

**Safety Requirements** In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, NBC Protection, FM 3-11.5, CBRN Decontamination. Everyone is responsible for safety. A thorough risk assessment must be completed prior to every mission or operation.

**Risk Assessment Level** None

**Environmental Considerations** **NOTE:** Instructor should conduct a Risk Assessment to include Environmental Considerations IAW FM 3-100.4, Environmental Considerations in Military Operations, Appendix G, and ensure students are briefed on hazards and control measures.  
Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training

resources while protecting people and the environment from harmful effects.

**Evaluation**

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

**Instructional Lead-in**

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.

**Resource Requirements**

*Instructor Materials:*

See the lesson plan resources.

*Student Materials:*

See the lesson plan resources.

**Special Instructions**

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

**Procedures**

Break the students down into 8 man groups, have each group cover down on one machine gun. One Instructor will grade each student individually.

**Feedback Requirements**

The students will receive timely feedback from the instructors during all practical exercises, hands-on performance evaluations, and written examinations. The student will be counseled (positive and/or negative) based on their performance on evaluations and classroom participation.

**SOLUTION FOR  
PRACTICAL EXERCISE 071-SAWE05 PE4**

**PERFORMANCE MEASURES**

1. Cleared the weapon.
2. Attached feed throat to feeder.
3. Inserted a round.
4. Loaded the first round to the fully-loaded position.
5. Placed the safety switch on SAFE.

**PRACTICAL EXERCISE SHEET 071-SAWE05 PE5**

**Title** Zero the MK19.

**Lesson Number/Title** 071-SAWE05 Version 1.0 / MK19, 40mm Machine Gun

**Security Classification** Unclassified

**Introduction** You will be required to zero the MK 19 Machine Gun.

**Motivator** IN OUR CURRENT OPERATIONAL ENVIRONMENT A SOLDIERS SURVIABILITY DEPENDS ON THE PROFICIENCY, AND CONFIDENCE IN THEIR ABILITY TO APPLY THE FUNDAMENTALS OF ENGAGING TARGETS, MAKING A MORE LETHAL, AND DEADLY COMBINATION DURING COMBAT.

**Enabling Learning Objective** **NOTE.** The instructor should inform the students of the following Enabling Learning Objective covered by this practical exercise. (ELO ELO E)  
At the completion of this lesson, you [the student] will:

Action:	Zero an MK 19 Grenade Machine Gun.
Conditions:	As a gunner, given an MK 19 grenade machine gun mounted on a vehicle or M3 tripod with an installed T&E assembly, a target at 300 and 700 meters (400 meters is preferred), and 4 rounds of linked 40-mm ammunition, you have been directed to zero the MK19.
Standards:	Fire the MK 19 and adjust the rear sight to ensure 2 out of 4 rounds impact within 5 meters of the point of aim.

**Safety Requirements** In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, NBC Protection, FM 3-11.5, CBRN Decontamination. Everyone is responsible for safety. A thorough risk assessment must be completed prior to every mission or operation.

**Risk Assessment Level** None

**Environmental Considerations** **NOTE:** Instructor should conduct a Risk Assessment to include Environmental Considerations IAW FM 3-100.4, Environmental Considerations in Military Operations, Appendix G, and ensure students are briefed on hazards and control measures.  
Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during

training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects.

**Evaluation**

Grade the Soldiers using the task performance measures.

Retrain Soldiers who do not receive a GO.

Re-test Soldiers until they achieve a GO.

**Instructional Lead-in**

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.

**Resource Requirements**

*Instructor Materials:*

See the lesson plan resources.

*Student Materials:*

See the lesson plan resources.

**Special Instructions**

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

**Procedures**

Break the students down into 8 man groups, have each group cover down on one machine gun. One Instructor will grade each student individually.

**Feedback Requirements**

The students will receive timely feedback from the instructors during all practical exercises, hands-on performance evaluations, and written examinations. The student will be counseled (positive and/or negative) based on their performance on evaluations and classroom participation.

**SOLUTION FOR  
PRACTICAL EXERCISE 071-SAWE05 PE5**

**PERFORMANCE MEASURES**

1. Prepared rear sight for zeroing.
2. Established a good zero firing position and sight picture.
3. Established a zero.
4. Adjusted the rear sight (if required).
5. Confirmed zero.
6. Recorded the zero.



**PRACTICAL EXERCISE SHEET 071-SAWE05 PE6**

**Title** Engage Targets with the MK 19 (LFX).

**Lesson Number/Title** 071-SAWE05 Version 1.0 / MK19, 40mm Machine Gun

**Security Classification** Unclassified

**Introduction** You will be required to engage targets with the MK19 Machine Gun.

**Motivator** IN OUR CURRENT OPERATIONAL ENVIRONMENT A SOLDIERS SURVIABILITY DEPENDS ON THE PROFICIENCY, AND CONFIDENCE IN THEIR ABILITY TO APPLY THE FUNDAMENTALS OF ENGAGING TARGETS, MAKING A MORE LETHAL, AND DEADLY COMBINATION DURING COMBAT.

**Enabling Learning Objective** **NOTE.** The instructor should inform the students of the following Enabling Learning Objective covered by this practical exercise. (ELO ELO F)  
At the completion of this lesson, you [the student] will:

Action:	Engage Targets with an MK 19 Grenade Machine Gun
Conditions:	As a gunner, given a zeroed MK 19 grenade machine gun (tripod or vehicular mounted), linked 40-mm ammunition, and stationary or moving targets (personnel or equipment) at engageable ranges. You have been directed to engage targets.
Standards:	Detect targets, assume an appropriate firing position, determine range to targets, identify target(s) as threat and non-threat target(s), and determine how to engage the target(s). Fire the machine gun using appropriate aiming and engagement techniques to ensure each target is hit or suppressed.

**Safety Requirements** In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, NBC Protection, FM 3-11.5, CBRN Decontamination. Everyone is responsible for safety. A thorough risk assessment must be completed prior to every mission or operation.

**Risk Assessment Level** None

**Environmental Considerations** **NOTE:** Instructor should conduct a Risk Assessment to include Environmental Considerations IAW FM 3-100.4, Environmental Considerations in Military Operations, Appendix G, and ensure students are briefed on hazards and control measures.

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

**Evaluation**

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

**Instructional  
Lead-in**

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.

**Resource  
Requirements**

*Instructor Materials:*  
See the lesson plan resources.

*Student Materials:*  
See the lesson plan resources.

**Special  
Instructions**

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

**Procedures**

Break the students down into 8 man groups, have each group cover down on one machine gun. One Instructor will grade each student individually.

**Feedback  
Requirements**

The students will receive timely feedback from the instructors during all practical exercises, hands-on performance evaluations, and written examinations. The student will be counseled (positive and/or negative) based on their performance on evaluations and classroom participation.

**SOLUTION FOR  
PRACTICAL EXERCISE 071-SAWE05 PE6**

**PERFORMANCE MEASURES**

1. Detected targets.
2. Assumed an appropriate firing position.
3. Determined range to targets.
4. Identified targets as threat and non-threat targets.
5. Determined how to engage the target(s).
6. Fired on targets using appropriate aiming and engagement techniques.

**PRACTICAL EXERCISE SHEET 071-SAWE05 PE7**

**Title** Take Action to Correct a Malfunction of a MK 19 Machine Gun.

**Lesson Number/Title** 071-SAWE05 Version 1.0 / MK19, 40mm Machine Gun

**Security Classification** Unclassified

**Introduction** You will be required to perform immediate actions drills and remedial action of the MK 19 Machine Gun.

**Motivator** IN OUR CURRENT OPERATIONAL ENVIRONMENT A SOLDIERS SURVIABILITY DEPENDS ON THE PROFICIENCY, AND CONFIDENCE IN THEIR ABILITY TO APPLY THE FUNDAMENTALS OF ENGAGING TARGETS, MAKING A MORE LETHAL, AND DEADLY COMBINATION DURING COMBAT.

**Enabling Learning Objective** **NOTE.** The instructor should inform the students of the following Enabling Learning Objective covered by this practical exercise. (ELO ELO G)  
At the completion of this lesson, you [the student] will:

Action:	Correct Malfunctions of an MK 19 Grenade Machine Gun.
Conditions:	As a gunner, given a MK 19 grenade machine gun, that has malfunctioned while firing. You have been directed to correct the malfunctions on the MK 19 grenade machine gun.
Standards:	Take immediate actions to correct a failure to fire, a runaway weapon, and perform remedial actions on the MK 19 grenade machine gun. Report deficiencies not correctable at operator level to supervisor.

**Safety Requirements** In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, NBC Protection, FM 3-11.5, CBRN Decontamination. Everyone is responsible for safety. A thorough risk assessment must be completed prior to every mission or operation.

**Risk Assessment Level** None

**Environmental Considerations** **NOTE:** Instructor should conduct a Risk Assessment to include Environmental Considerations IAW FM 3-100.4, Environmental Considerations in Military Operations, Appendix G, and ensure students are briefed on hazards and control measures.  
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training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects.

**Evaluation**

Grade the Soldiers using the task performance measures.

Retrain Soldiers who do not receive a GO.

Re-test Soldiers until they achieve a GO.

**Instructional Lead-in**

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.

**Resource Requirements**

*Instructor Materials:*

See the lesson plan resources.

*Student Materials:*

See the lesson plan resources.

**Special Instructions**

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

**Procedures**

Break the students down into 8 man groups, have each group cover down on one machine gun. One Instructor will grade each student individually.

**Feedback Requirements**

The students will receive timely feedback from the instructors during all practical exercises, hands-on performance evaluations, and written examinations. The student will be counseled (positive and/or negative) based on their performance on evaluations and classroom participation.

**SOLUTION FOR  
PRACTICAL EXERCISE 071-SAWE05 PE7**

**PERFORMANCE MEASURES**

1. Took immediate action to correct a failure to fire.
2. Took immediate action to secure a runaway weapon.
3. Performed remedial action to correct a failure to fire.
4. Reported deficiencies not correctable at operator level to the supervisor.

**PRACTICAL EXERCISE SHEET 071-SAWE05 PE8**

**Title** Dismount the MK 19 from an M3 Tripod.

**Lesson Number/Title** 071-SAWE05 Version 1.0 / MK19, 40mm Machine Gun

**Security Classification** Unclassified

**Introduction** You will be required to remove the MK 19 from the tripod and prepare it for travel.

**Motivator** IN OUR CURRENT OPERATIONAL ENVIRONMENT A SOLDIERS SURVIABILITY DEPENDS ON THE PROFICIENCY, AND CONFIDENCE IN THEIR ABILITY TO APPLY THE FUNDAMENTALS OF ENGAGING TARGETS, MAKING A MORE LETHAL, AND DEADLY COMBINATION DURING COMBAT.

**Enabling Learning Objective** **NOTE.** The instructor should inform the students of the following Enabling Learning Objective covered by this practical exercise. (ELO ELO H)  
At the completion of this lesson, you [the student] will:

Action:	Dismount an MK 19 Grenade Machine Gun from an M3 Tripod.
Conditions:	As a gunner, given a MK 19 grenade machine gun mounted on an M3 tripod using a MK 64 gun mount, a feed throat assembly, a traversing and elevation (T&E) mechanism, a storage bag, and an assistant. You have been directed to dismount a MK 19 grenade machine gun from an M3 tripod.
Standards:	Clear the MK 19 grenade machine gun, remove the feed throat assembly, remove the MK 19 from the M3 tripod, dismantle the M3 tripod, and store the MK 64 gun mount, feed throat assembly, and traversing and elevation (T&E) mechanism, and the M3 tripod.

**Safety Requirements** In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, NBC Protection, FM 3-11.5, CBRN Decontamination. Everyone is responsible for safety. A thorough risk assessment must be completed prior to every mission or operation.

**Risk Assessment Level** None

**Environmental Considerations** **NOTE:** Instructor should conduct a Risk Assessment to include Environmental Considerations IAW FM 3-100.4, Environmental Considerations in Military Operations, Appendix G, and ensure students are briefed on hazards and control measures.

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**Evaluation**

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

**Instructional Lead-in**

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.

**Resource Requirements**

*Instructor Materials:*  
See the lesson plan resources.

*Student Materials:*  
See the lesson plan resources.

**Special Instructions**

**PERFORMANCE MEASURES**

1. Cleared the MK 19 grenade machine gun.
2. Removed the feed throat assembly.
3. Removed machine gun from the Tripod.
4. Disassembled the M3 tripod.
5. Stored the MK64 gun mount, feed throat assembly, and T&E mechanism in the storage bag.
6. Stored the tripod.

**Procedures**

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

**Feedback Requirements**

The students will receive timely feedback from the instructors during all practical exercises, hands-on performance evaluations, and written examinations. The student will be counseled (positive and/or negative) based on their performance on evaluations and classroom participation.



**SOLUTION FOR  
PRACTICAL EXERCISE 071-SAWE05 PE8**

**PERFORMANCE MEASURES**

1. Cleared the MK 19 grenade machine gun.
2. Removed the feed throat assembly.
3. Removed machine gun from the Tripod.
4. Disassembled the M3 tripod.
5. Stored the MK64 gun mount, feed throat assembly, and T&E mechanism in the storage bag.
6. Stored the tripod.

**Appendix D - Student Handouts**

**MK19, 40mm Machine Gun  
071-SAWE05 / Version 1.0**

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

## Appendix E - TRAINER'S LESSON OUTLINE

### MK19, 40mm Machine Gun

071-SAWE05 / Version 1.0

Effective Date: 08 March 2013

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

Engage Targets with the MK19 Grenade Machine Gun.

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

Maintain the MK19 machine gun and engage targets.

#### 3. Tasks to be taught

<u>Task Number</u>	<u>Task Title</u>	<u>Task Type</u>
071-030-0001	Maintain an MK19 Grenade Machine Gun, Tripod, and Ammunition	Individual TAUGHT
071-030-0003	Zero an MK 19 Grenade Machine Gun	Individual TAUGHT
071-030-0004	Engage Targets with an MK 19 Grenade Machine Gun	Individual TAUGHT
071-030-0005	Load an MK 19 Grenade Machine Gun	Individual TAUGHT
071-030-0006	Unload an MK 19 Grenade Machine Gun	Individual TAUGHT
071-030-0007	Perform a Function Check on a MK 19 Grenade Machine Gun	Individual TAUGHT
071-030-0011	Mount an MK 19 Grenade Machine Gun on an M3 Tripod	Individual TAUGHT
071-030-0012	Dismount an MK 19 Grenade Machine Gun from an M3 Tripod	Individual TAUGHT
071-030-0008	Correct Malfunctions of an MK 19 Grenade Machine Gun	Individual TAUGHT
07-2-3000	Conduct Support by Fire (Platoon-Company)	Collective SUPPORTED

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#### Additional Non-Standard Tasks

None

#### 4. References:

<u>Reference Number</u>	<u>Reference Title</u>	<u>Date</u>
FM 3-22.27	MK 19, 40-Mm Grenade Machine Gun, Mod 3	14 Sep 2006
FM 5-19	COMPOSITE RISK MANAGEMENT	21 Aug 2006
TM 9-1005-245-13&P	OPERATORS, UNIT, AND DIRECT SUPPORT MAINTENANCE MANUAL WITH REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL) FOR MACHINE GUN MOUNTS AND COMBINATIONS FOR TACTICAL/ARMORED VEHICLES AND GROUND MOUNTING M122 MACH	17 Apr 2005
TM 9-1005-344-10	OPERATOR'S MANUAL FOR GROUND MOUNTS M122 MACHINE GUN TRIPOD	15 Feb 2007
TM 9-1010-230-10	OPERATORS MANUAL FOR MACHINE GUN, 40-MM, MK 19, MOD 3 (NSN 1010-01-126-9063) (EIC: 4AE) {TM 08521A-10/1A;TO 11W2-5-16-1;SW 363-C3-MMM-010}	30 May 2001

### 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>
17834	Range, Machinegun/Grenade (40mm) Qualification
17120-1440-40	GENERAL INSTRUCTION BUILDING, 1440 SF, 40 PN

*AMMO: Ammunition Requirements*

<u>DODIC</u>	<u>Name</u>
B472	Dummy Cartridge, 40 Millimeter, M25 F/L60
B584	Cartridge, 40 Millimeter

*MISC: Materiel Items and TADSS Requirements*

<u>Id</u>	<u>Name</u>
1005-00-322-9716	MOUNT,TRIPOD,MACHINE GUN
1005-00-322-9716	MOUNT,TRIPOD,MACHINE GUN
1005-00-322-9716	MOUNT,TRIPOD,MACHINE GUN
1005-00-344-6496	Mount, Tripod M3
1005-00-344-6496	Mount, Tripod M3
1005-00-494-6602	BRUSH,CLEANING,SMALL ARMS
1005-00-550-4037	BRUSH,CLEANING,SMALL ARMS
1005-00-556-4102	ROD,CLEANING,SMALL ARMS
1005-00-603-4834	ELEVATING AND TRAVERSING MECHANI
1005-00-653-5441	ROD,CLEANING,SMALL ARMS
1010-00-557-4621	ELEVATION MECHANISM
1010-01-126-9063	MACHINE GUN,GRENADE
1010-01-130-3435	COMBINATION TOOL
1010-01-150-9983	BRUSH ASSEMBLY,BORE
1010-01-150-9983	BRUSH ASSEMBLY,BORE
1010-01-151-6221	Train and Elevation
1010-01-412-3159	MOUNT,GUN
1010-01-428-3233	DETECTOR,BORE OBSTRUCTION
2320-01-111-2274	Truck, Ambulance, 4 Litter: M997
2320-01-354-3385	Truck Cargo: 4x4 LMTV W/E: M1078
2350-01-068-4077	Carrier Personnel Full Tracked: Armored: M113A2
2350-01-068-4077	Carrier Personnel Full Tracked: Armored: M113A2
4470-01-359-2799	COMPUTER, NOTEBOOK/LAPTOP
5120-01-021-7472	PLIERS,SLIP JOINT
5180-01-528-0772	Kit, MK64 Machine Gun Mount
5180-01-528-0772	Kit, MK64 Machine Gun Mount
5350-00-221-0872	CLOTH,ABRASIVE
5830-00-164-6622	Public Address Set: AN/TIQ-2
6515-00-137-6345	Plug Ear Universal Size 400S
6530-00-783-7510	LITTER,NONRIGID,POLELESS
6530-00-783-7905	LITTER,FOLDING,RIGID POLE
6545-01-254-9551	MES,COMBAT LIFESAVER-1999
6730-00-577-4813	Screen, Projection
6730-00-933-4871	Screen, Projection
6730-01-551-9773	Projector, Multimedia: Epson Powerlite 760C
6850-00-224-6657	CLEANING COMPOUND,RIFLE BORE
6850-00-224-6657	CLEANING COMPOUND,RIFLE BORE
6850-00-281-3061	DRY CLEANING SOLVENT
6920-00-071-4780	Target, Silhouette
6920-01-444-9703	TARGET,TANK REPLICA
7240-00-089-3827	Can, Military
7920-00-205-1711	RAG,WIPING
8020-00-297-6657	BRUSH,PAINT
8105-00-285-4744	BAG,SAND
8415-01-092-0039	MITTEN,HEAT PROTECTIVE
9150-00-223-4004	GREASE,MOLYBDENUM DISULFIDE
9150-00-935-4018	GREASE,MOLYBDENUM DISULFIDE
9150-00-949-0323	LUBRICATING OIL,SEMIFLUID

9150-00-949-0323

9920-00-292-9946

B67766

(Note: Asterisk before ID indicates a TADSS.)

LUBRICATING OIL, SEMIFLUID

CLEANER, TOBACCO PIPE

BINOCULAR, 7X50MM, MODULAR CONSTR, M22

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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.