

**Maintain the M249 Machine Gun (Squad Automatic Weapon - SAW)  
071-SAW04 / Version 1.0  
Effective Date 08 Mar 2013**

**SECTION I. ADMINISTRATIVE DATA**

**All Courses Including This Lesson**

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

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

<u>Task Number</u>	<u>Task Title</u>
<u>Individual</u>	
071-COM-4025 (*)	Maintain an M249 Machine Gun
071-COM-4024	Engage Targets with an M249 Machine Gun

**Reinforced Task(s)**

<u>Task Number</u>	<u>Task Title</u>
071-COM-4026	Perform a Function Check on an M249 Machine Gun
071-COM-4028	Unload an M249 Machine Gun

**Knowledge**

<u>Knowledge Id</u>	<u>Title</u>	<u>Taught</u>	<u>Required</u>
071-OPN-0016	Inspection Techniques	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-0063	Weapons Functions	Yes	No

**Skill**

<u>Skill Id</u>	<u>Title</u>	<u>Taught</u>	<u>Required</u>
071-WPN-0010	Perform a Function Check on Infantry Weapons	Yes	No
071-WPN-0011	Identify Operational Parts	No	Yes
071-WPN-0014	Use Cleaning Materials	Yes	No
071-WPN-0005	Ability to Load and Unload Infantry Weapons	No	Yes
071-WPN-0006	Clear Infantry Weapons	No	Yes
071-WPN-0029	Maintain Infantry Weapons	Yes	No

**Administrative/  
Academic  
Hours**

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

<u>Academic</u>	<u>Resident Hours / Methods</u>		
Yes	0 hrs	5 mins	Lecture
Yes	1 hr	0 mins	Conference/Demonstration
Yes	2 hrs	0 mins	Practical Exercise (Hands-On)
Yes	0 hrs	5 mins	Conference/Discussion
Yes	0 hrs	0 mins	Test Review
Yes	0 hrs	0 mins	Test
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Total Hours:	3 hrs	10 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 3-22.68	Crew-Served Machine Guns, 5.56-MM and 7.62-MM	21 Jul 2006	
TM 9-1005-201-10	OPERATORS MANUAL FOR MACHINE GUN, 5.56-MM, M249 W/EQUIP (NSN 1005-01-127-7510) (EIC: 4BG) {TM 08671A-10/1A} (REPRINTED W/BASIC INCL C1)	26 Jul 1991	

**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>
NCOIC	1:32		
Combat Lifesaver	1:32		

**Equipment  
Required  
for Instruction**

<u>ID - Name</u>	<u>Student Ratio</u>	<u>Instructor Ratio</u>	<u>Spt</u>	<u>Qty</u>	<u>Exp</u>
* GTA 07-01-042 - M249 Machine Gun Disassembly Mat	6:32				No
1005-01-127-7510 - MACHINE GUN,5.56 MILLIMETER	6:32	0:0	No	0	No
1005-01-131-1914 - SCRAPER ASSEMBLY	6:32	0:0	No	0	No
1005-01-249-0184 - HEATSHIELD ASSEMBLY	6:12	0:0	No	0	No
1005-01-470-5046 - BARREL,MACHINE GUN	6:32	0:0	No	0	No
1005-01-526-7354 - CLEANING KIT,GUN	6:32	0:0	No	0	No
6545-01-254-9551 - MES,COMBAT LIFESAVER- 1999	1:32	0:0	No	0	No
6730-00-933-4871 - Screen, Projection	1:32	0:0	No	0	No
6730-01-363-4544 - PROJECTOR,MULTIMEDIA	1:32	0:0	No	0	No
6850-00-224-5657 - Cleaning Compound, Solvent: rifle bore cleaner (RBC) (81349) MIL-C- 372 6 oz can	6:36	0:0	No	0	No
7010-01-188-8051 - COMPUTER SYSTEM,DIGITAL	1:32	0:0	No	0	No
7520-00-079-2406 - EASEL,DISPLAY AND TRAINING	1:32	0:0	No	0	No
9150-01-053-6688 - CLEANER,LUBRICANT AND PRESERVATI	6:32	0:0	No	0	No

(Note: Asterisk before ID indicates a TADSS.)

**Materials  
Required**

*Instructor Materials:*

FM 3-22.68 Crew Served Weapons

TM 9-1005-201-10 Operators Manual M249 Machine Gun

*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>
17120-1080-50 GEN INST BLDG, 1080 SF, 50 PN		1:32	15	15

**Ammunition Requirements**

<u>DODIC - Name</u>	<u>Exp</u>	<u>Student Ratio</u>	<u>Instruct Ratio</u>	<u>Spt Qty</u>
None				

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**Instructional Guidance**

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

Before presenting this lesson:

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

**Proponent Lesson Plan Approvals**

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

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## SECTION II. INTRODUCTION

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

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### Motivator

In our current operational environment a Soldiers survivability depends on the proficiency, and confidence in their ability to apply the fundamentals of engaging targets. You must be proficient in the maintenance of your assigned weapons to ensure that they are ready to perform when you need them.

### 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:	Maintain an M249 Machine Gun.
Conditions:	You have just returned from a mission and have been directed to conduct maintenance on your M249 machine gun. You have a cleaning kit which contains pipe cleaners, small-arms swabs, chamber and bore brushes, cleaning rod, wiping rags, scraper tool, and cleaner lubricant preservative (CLP).
Standards:	Clear, disassemble, clean, inspect, lubricate, reassemble, and perform a function check on the M249. Clean and inspect ammunition.

### 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**

**Low - 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**

Today you will be trained on the maintenance procedures utilized to ensure that the M249 SAW remains fully mission capable.

### SECTION III. PRESENTATION

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

#### A. ENABLING LEARNING OBJECTIVE

<b>ACTION:</b>	Maintain an M249 Machine Gun
<b>CONDITIONS:</b>	You have just returned from a mission and have been directed to conduct maintenance on your M249 machine gun. You have a cleaning kit which contains pipe cleaners, small-arms swabs, chamber and bore brushes, cleaning rod, wiping rags, scraper tool, and cleaner lubricant preservative (CLP). Some iterations of this task should be performed in MOPP.
<b>STANDARDS:</b>	Clear, disassemble, clean, inspect, lubricate, reassemble, and perform a function check on the M249. Clean and inspect ammunition.

ELO A - LSA 1. Learning Step / Activity ELO A - LSA 1. Maintain an M249 Machine Gun.

Method of Instruction: Conference/Demonstration

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

Time of Instruction: 1 hr 0 min

Instructional Strategy: Large Group Instruction

Media Type: Actual Equipment / Equipment Based Instruction

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

#### WARNING

**Be sure bolt is in forward position before removing return rod and transfer mechanism assembly and spring.**

1. Clear the M249.

**Note:** If the moving parts are situated at the rear, push safety to left (RED BAND visible), hold cocking handle with one hand, press trigger and, with hand on cocking lever, ride the moving parts slowly forward.

- a. Move the safety to the fire position.
- b. Lock the bolt to the rear by pulling the cocking handle to the rear using your right hand, palm up.
- c. Return the cocking handle forward to its locked position.
- d. Place the M249 on safe.
- e. Check for brass, links, or ammunition-
  - (1) Raise the feed tray cover assembly by pushing in the latches and tilting upwards.
    - (a) Remove ammunition belt, if present.
    - (b) Check the feed pawl assembly under the feed cover.
    - (c) Check the feed tray assembly.
  - (2) Raise the feed tray assembly by tilting upwards.
    - (a) Check the chamber.
    - (b) Check the space between the face of the bolt and the chamber.

- (c) Insert two fingers in the magazine well and feel for brass or ammunition.
- (3) Lower the feed tray.
- f. Close the feed tray cover assembly until it locks closed.
- g. Move the safety to the fire position.
- h. Ride the bolt forward by pulling the cocking handle to the rear.

### **WARNING**

**Ensure bolt is in forward position before removing drive spring, return rod, and transfer mechanism assembly.**

#### 2. Disassemble the M249.

##### a. Remove drive spring, return rod and transfer mechanism assembly.

- (1) Ensure bolt is in the forward position.
- (2) Raise the cover assembly.
- (3) Pull the upper retaining pin at the rear of the receiver to the left (pin does not remove completely).
- (4) Pivot the butt downward so the rear opening of the receiver is clear.
- (5) Push the return rod and transfer mechanism assembly in and upward to release it from positioning groove.
- (6) Remove rod and transfer mechanism assembly.
- (7) Separate the drive spring from the return rod and spring.

##### b. Remove the operating rod, slide assembly, and bolt assembly.

- (1) Pull the cocking handle to the rear to move operating rod, slide assembly, and bolt assembly out the rear of the receiver.
- (2) Rotate the bolt clockwise to disengage the lug.
- (3) Remove the bolt from the slide assembly.
- (4) Separate the piston from the slide assembly by pressing the rear most retaining pin to the left and lifting the piston off the slide assembly.

##### c. Remove the heat shield.

- (1) Hold the weapon with one hand.
- (2) Remove the heat shield, by grasping the heat shield with the other hand just forward of the barrel handle and lifting it off the barrel.

##### d. Remove the barrel.

- (1) Ensure the folding handle on the new style barrel is in carrying (up) position.
- (2) Depress the barrel locking lever with your left hand.
- (3) Grasp the carrying handle with your right hand.
- (4) Lift the carrying handle while simultaneously pushing the barrel forward.

##### e. Remove the handguard.

- (1) Push the handguard retaining pin to the left using a section of the cleaning rod.
- (2) Pull downward to separate the handguard from the M249.

##### f. Remove the gas regulator.

**Note:** Position hand to prevent gas regulator from falling out.

- (1) Position the gas collar so you can insert the scraper assembly into the notch in the front left of the gas block.

(2) Insert the tip of the scraper assembly in the notch; hold the scraper firmly in position, turn the collar counterclockwise and remove it.

(3) Remove the gas regulator from the gas block.

g. Remove the buttstock and buffer assembly.

**Note:** The upper and lower retaining pins in the rear of the receiver are captured pins.

Do not try to remove them completely during disassembly.

(1) Push the lowermost retaining pin to the left, using a section of the cleaning rod.

(2) Pull the buttstock and buffer assembly rearward while supporting the trigger mechanism with one hand and using the other to separate it from the M249.

#### **WARNING**

**Never remove trigger mechanism before weapon is cleared. Removal of the trigger mechanism from a loaded weapon will cause a runaway.**

h. Remove the trigger mechanism.

(1) Grasp the trigger mechanism with one hand.

(2) Pull rearward and down to separate the trigger mechanism from the M249.

i. Remove the gas cylinder.

(1) Turn the gas cylinder to the left or right to release the locking spring.

(2) Pull the gas cylinder forward to remove it.

j. Remove the bipod.

(1) Turn the bipod left or right to loosen it.

(2) Slip the bipod off the receiver

#### **WARNING**

**Do not use gasoline, kerosene, hydraulic oil, benzene, benzol, high-pressure water, steam, or compressed air for cleaning.**

#### **CAUTION**

**Be sure to clean your barrel bore from the breech end with barrel removed from weapon. Do not use abrasives to clean the bore, piston, gas cylinder, or gas regulator.**

3. Clean the M249.

**Note:** Do not remove extractor or extractor pin during cleaning. Use care when cleaning the cover and feed mechanism to avoid knocking the springs out.

a. Clean the bore and chamber using a bore brush, a chamber brush, CLP, and fresh swabs.

b. Clean the gas regulator using the appropriate parts of the scraper.

(1) Clean the gas vent hole by using the appropriate part of the scraper and by turning the scraper while pushing it in the hole.

(2) Clean the central hole of the gas regulator by using the appropriate part of the scraper and by turning the scraper clockwise while pushing it inward toward the bottom of the housing.

(3) Clean the two grooves of the regulator body by using the protruding tips of the scraper and by turning the scraper while pushing inward.

c. Clean the gas cylinder and piston using the scraper.

- (1) Clean the front interior of the gas cylinder (repositioned in receiver) by inserting and turning the flat side of the scraper in a full 360-degree circular motion.
  - (2) Clean the internal grooves on the front side of the gas cylinder as previously described (using the protruding tips of the scraper), but insert the scraper farther into the gas cylinder.
  - (3) Clean the three grooves of the piston using a full, 360-degree circular motion.
  - (4) Clean the hole in the front of the piston by inserting and turning the flat side of the scraper in a full 360-degree circular motion.
- d. Remove carbon and dirt from all other parts of the weapon using CLP and a wiping rag.

4. Inspect the M249 for serviceability.

a. Inspect the exterior of the M249.

- (1) Check the front sight for looseness.
  - (2) Inspect the flash suppressor (old style barrel) or compensator (new style barrel), the barrel extension, and the barrel release for cracks, dents, burrs, or other damage.
  - (3) Check the cover assembly for smooth operation, spring tension, bent parts, and excessive wear.
  - (4) Check the rails for excessive wear, burrs, and chips.
  - (5) Check the barrel locking latch and cover detect springs for spring tension.
  - (6) Check for broken pistol grip and chipped or cracked trigger housing holding lug.
  - (7) Check the safety function.
    - (a) Push the safety to the right so that the RED BAND is not visible.
    - (b) Pull the trigger; ensuring the sear does not lower.
    - (c) Push the safety to the left so that the RED BAND is visible.
    - (d) Pull the trigger again; ensuring the sear lowers.
  - (8) Check bipod legs for correct operation.
  - (9) Check the rear sight assembly for serviceability.
- b. Inspect the interior of the M249.

- (1) Inspect the bore and chamber for chips and pitting.
- (2) Check the cocking assembly for free movement and for bent or cracked parts.
- (3) Check the tripping lever and the seat for burrs, cracks, chips, or wear.
- (4) Check the cocking action by-
  - (a) Push back on the tripping lever - the sear should rise.
  - (b) Pull the trigger - the sear should lower.
- (5) Check the slide assembly, bolt assembly, piston assembly, and return rod and transfer mechanism assembly for burrs, cracks, and broken pins.
  - (a) Push down on roller of slide assembly to ensure it retracts.
  - (b) Check the driving spring for broken strands.

**Note:** Turn-in unserviceable weapons to the unit armorer and identify specific unserviceable parts.

#### **CAUTION**

**Do not lubricate chamber and gas regulator hole in barrel, interior or exterior of piston, interior of gas cylinder or the bolt face.**

5. Lubricate the M249.
  - a. Lubricate exposed metal parts and all moving parts with a light coat of CLP.
  - b. Do not lubricate the gas regulator hole in the barrel or the gas regulator itself.
  - c. Remove excessive oil from the bore before firing.
  - d. Use only CLP to lubricate the M240B, except under cold arctic conditions when arctic CLP is used.
6. Assemble the M249.
  - a. Replace the bipod and gas cylinder.
    - (1) Place the bipod on the receiver with the bipod legs open and pointed down.
    - (2) Push the gas cylinder through the bipod yoke into the receiver.
    - (3) Push the cylinder to the rear while countering the pressure of the locking spring.
    - (4) Guide the end of the cylinder into the receiver with the other hand applying downward pressure.
    - (5) Insert the gas cylinder fully in place.
    - (6) Rotate the gas cylinder until the spring clicks into place in the recess at the rear of cylinder.
  - b. Replace the handguard.
    - (1) Stow the cleaning equipment in the handguard.
    - (2) Place the handguard onto the receiver.
    - (3) Slide the handguard backward until it stops.
    - (4) Push the handguard retaining pin to the right using a cleaning rod section.
  - c. Replace the gas regulator.
    - (1) Insert the gas regulator into the lower end of the hole in the gas block.
    - (2) Align the notch on the gas regulator body with the notch in the gas block.
    - (3) Place the gas collar on the protruding end of the gas regulator after ensuring the gas regulator is installed and supported on a firm surface.
    - (4) Rotate the gas collar until it slips in place.
    - (5) Lock the gas regulator in place by pressing it in and rotating it.
  - d. Replace the barrel.
    - (1) Depress the barrel locking lever with your left hand.
    - (2) Hold the carrying handle with your right hand.
    - (3) Pull the barrel rearward into the receiver.
    - (4) Push the carrying handle downward thereby releasing the barrel locking lever.
    - (5) Check to ensure the barrel locks into position.
  - e. Replace the trigger mechanism.
    - (1) Pull the retaining pin to the left side of the receiver.
    - (2) Align the trigger mechanism with the slot on the bottom of the receiver.
    - (3) Push the lower retaining pin into the right side hole on the rear of the trigger mechanism assembly to hold it in place.

#### **WARNING**

**When the retention (pivot) pin is not positively retained it can work loose during firing. If it works completely out, the trigger mechanism can separate from the weapon. Separation of the trigger mechanism when the weapon is loaded, will create a runaway.**

f. Replace the buttstock and shoulder assembly.

- (1) Support the trigger mechanism with your left hand.
- (2) Align the lower hole in buttstock and buffer assembly with the rear hole in the trigger mechanism.
- (3) Push the lower retaining pin to the right.

g. Replace the operating rod, slide assembly, and bolt assembly.

- (1) Secure the slide assembly to the piston by pushing the retaining pin from the left to the right.
- (2) Place the firing pin spring on the firing pin.
- (3) Put the bolt assembly into the slide assembly.
- (4) Press in to compress the firing pin spring.
- (5) Rotate the bolt and hook its driving lug into the slide assembly.
- (6) Put the assembled parts into the receiver with the feed cover open.
- (7) Align and place the bolt lugs, ensuring you slide the cutouts carefully onto the receiver rails.
- (8) Press the trigger while simultaneously pushing the parts all the way forward.

#### **CAUTION**

**Improper assembly of the transfer mechanism can cause damage to the receiver and/or the assembly itself. If the horizontal pins of the transfer assembly are not placed in the hooks, inside the receiver, when the buttstock is pivoted in the up position for pinning, the receiver hooks can be bent. If the horizontal pins of the transfer assembly are rotated to a vertical position and the bottom pin is hooked into the lightening hole in the bottom of the receiver, the pin can be sheared, damaged or lost when the weapon is fired.**

h. Replace the spring, return rod, and transfer mechanism assembly.

- (1) Put the slide spring on the return rod and transfer mechanism assembly.
- (2) Ensure that the headed end of the vertical pin in the transfer mechanism assembly (on top of the transfer mechanism assembly) points upward.
- (3) Hold the pistol grip (or buttstock) with one hand.
- (4) Push the return rod and transfer mechanism assembly into its housing in the piston with the other hand.
- (5) Press inward and downward on the rear of the assembly until its two lugs move into the receiver grooves.

i. Replace the buttstock and buffer assembly.

- (1) Pivot the buttstock and buffer assembly upward into position.
- (2) Push the retaining pin to the right.
- (3) Close the cover assembly.

j. Replace the heat shield assembly.

- (1) Hook the metal extensions of the heat shield assembly under the front sight pins (new style barrel) with the spring clips down on top of the barrel.

Note: Although old style barrels do not have protruding front sight pins, you can still install heat shield assemblies on them.

- (2) Apply downward pressure and snap the heat shield onto the barrel.

**WARNING**

**Do not dry fire the weapon. Allowing the bolt to slam closed on an empty chamber can cause unnecessary wear and possible damage to the bolt, barrel, and receiver. Failure to return the cocking handle to the fully forward position prior to function checking (firing) the weapon can result in the bulging/cracking of the cocking handle guide rail portion of the receiver.**

7. Perform a function check to ensure you have assembled the weapon correctly.

**Note:** A function check is the final step of maintaining your M249. It is also performed anytime the proper operation of a M249 is in question. Stop a function check at anytime the M249 does not function properly and turn in the malfunctioning M249 as per unit SOP.

**WARNING**

**Do not fire seriously corroded ammunition, dented cartridges, cartridges with loose bullets, cartridges exposed to extreme heat (direct sunlight on a hot day) until they have cooled or cartridges with pushed in (short) bullets.**

**CAUTION**

**Do not lubricate ammunition under any circumstances. Dust and other abrasives that collect on oily ammunition are damaging to operating parts of the gun. Lubricated cartridges produce excessive chamber pressure.**

8. Maintain ammunition.

**Note:** Ammunition must be maintained properly. The basic care of ammunition is to keep it clean and dry.

a. Maintain individual rounds or ammunition belts.

- (1) Inspect ammunition prior to use.
- (2) Clean using a clean dry cloth.
- (3) Wipe off all dirt and foreign matter.
- (4) Check for damaged links.

b. Maintain ammunition boxes.

- (1) Clean ammunition boxes with a brush and clean dry wiping rag.
- (2) Check ammunition box for damage.
- (3) Make sure the box latch will engage the receiver dovetail.

Check on Learning:

Conduct a check on learning and correct any student misunderstandings.

Review Summary:

Conduct a Summary Review.

**CHECK ON LEARNING (ELO A):**

Conduct a check on learning and correct any student misunderstandings.

**REVIEW SUMMARY(ELO A):**

Conduct a Summary Review.

## 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**

Conduct a check on learning and correct any student misunderstandings.

### **Review/ Summary**

- a. You have learned how to operate an M249 machine gun. You have learned how to maintain, perform a function check, load, unload and correct malfunctions of the M249. In addition, you have fired familiarization on both a 10 meter and transition range.
  
- b. It is important that you remember all of these skills as you will be required to properly use the M249 as a squad automatic weapon

## 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**

**Maintain the M249 Machine Gun (Squad Automatic Weapon - SAW)  
071-SAW04 / 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-SAWE04 Version 1.0

#### PRACTICAL EXERCISE SHEET 071-SAWE04 PE1

<b>Title</b>	Maintain the M249 Machine Gun.						
<b>Lesson Number/Title</b>	071-SAWE04 Version 1.0 / Maintain the M249 Machine Gun (Squad Automatic Weapon - SAW)						
<b>Security Classification</b>	Unclassified						
<b>Introduction</b>	This Practical Exercise will test your ability to maintain the M249 Machine Gun.						
<b>Motivator</b>	You must be able to maintain the M249 Machine Gun to ensure it is mission capable when needed.						
<b>Terminal Learning Objective</b>	<p><b>NOTE.</b> Inform the students of the following Terminal Learning Objective requirements. At the completion of this lesson, you [the student] will:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Action:</td> <td>Maintain an M249 Machine Gun.</td> </tr> <tr> <td>Conditions:</td> <td>You have just returned from a mission and have been directed to conduct maintenance on your M249 machine gun. You have a cleaning kit which contains pipe cleaners, small-arms swabs, chamber and bore brushes, cleaning rod, wiping rags, scraper tool, and cleaner lubricant preservative (CLP).</td> </tr> <tr> <td>Standards:</td> <td>Clear, disassemble, clean, inspect, lubricate, reassemble, and perform a function check on the M249. Clean and inspect ammunition.</td> </tr> </table>	Action:	Maintain an M249 Machine Gun.	Conditions:	You have just returned from a mission and have been directed to conduct maintenance on your M249 machine gun. You have a cleaning kit which contains pipe cleaners, small-arms swabs, chamber and bore brushes, cleaning rod, wiping rags, scraper tool, and cleaner lubricant preservative (CLP).	Standards:	Clear, disassemble, clean, inspect, lubricate, reassemble, and perform a function check on the M249. Clean and inspect ammunition.
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Standards:	Clear, disassemble, clean, inspect, lubricate, reassemble, and perform a function check on the M249. Clean and inspect ammunition.						
<b>Safety Requirements</b>	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.						
<b>Risk Assessment Level</b>	None						
<b>Environmental Considerations</b>	<p><b>NOTE:</b> 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.</p> <p>Environmental protection is not just the law but the right thing to do. It is a continual process</p>						

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 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-SAWE04 PE1**

**PERFORMANCE MEASURES**

1. Cleared the M249.
2. Disassembled the M249.
3. Cleaned the M249.
4. Inspected the M249 for serviceability.
5. Lubricated the M249.
6. Assembled the M249.
7. Performed a functions check to ensure you assembled the weapon correctly.
8. Maintained ammunition.

**Appendix D - Student Handouts**

**Maintain the M249 Machine Gun (Squad Automatic Weapon - SAW)  
071-SAW04 / Version 1.0**

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

## Appendix E - TRAINER'S LESSON OUTLINE

### Maintain the M249 Machine Gun (Squad Automatic Weapon - SAW)

071-SAWE04 / Version 1.0

Effective Date: 08 March 2013

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

Maintain an M249 Machine Gun.

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

Clear, disassemble, clean, inspect, lubricate, reassemble, and perform a function check on the M249. Clean and inspect ammunition.

#### 3. Tasks to be taught

<u>Task Number</u>	<u>Task Title</u>	<u>Task Type</u>
071-COM-4026	Perform a Function Check on an M249 Machine Gun	Individual REINFORCED
071-COM-4028	Unload an M249 Machine Gun	Individual REINFORCED
071-COM-4025	Maintain an M249 Machine Gun	Individual TAUGHT
071-COM-4024	Engage Targets with an M249 Machine Gun	Individual SUPPORTED

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#### Additional Non-Standard Tasks

None

#### 4. References:

<u>Reference Number</u>	<u>Reference Title</u>	<u>Date</u>
FM 3-22.68	Crew-Served Machine Guns, 5.56-MM and 7.62-MM	21 Jul 2006
TM 9-1005-201-10	OPERATORS MANUAL FOR MACHINE GUN, 5.56-MM, M249 W/EQUIP (NSN 1005-01-127-7510) (EIC: 4BG) {TM 08671A-10/1A} (REPRINTED W/BASIC INCL C1)	26 Jul 1991

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#### Additional Non-Standard References

Unit Markanmanship SOPs.

## 5. Resources

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

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

<u>Id</u>	<u>Name</u>
17120-1080-50	GEN INST BLDG, 1080 SF, 50 PN

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*AMMO: Ammunition Requirements*

<u>DODIC</u>	<u>Name</u>
None	

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*MISC: Materiel Items and TADSS Requirements*

<u>Id</u>	<u>Name</u>
* GTA 07-01-042	M249 Machine Gun Disassembly Mat
1005-01-127-7510	MACHINE GUN,5.56 MILLIMETER
1005-01-131-1914	SCRAPER ASSEMBLY
1005-01-249-0184	HEATSHIELD ASSEMBLY
1005-01-470-5046	BARREL,MACHINE GUN
1005-01-526-7354	CLEANING KIT,GUN
6545-01-254-9551	MES,COMBAT LIFESAVER-1999
6730-00-933-4871	Screen, Projection
6730-01-363-4544	PROJECTOR,MULTIMEDIA
6850-00-224-5657	Cleaning Compound, Solvent: rifle bore cleaner (RBC) (81349) MIL-C-372 6 oz can
7010-01-188-8051	COMPUTER SYSTEM,DIGITAL
7520-00-079-2406	EASEL,DISPLAY AND TRAINING
9150-01-053-6688	CLEANER,LUBRICANT AND PRESERVATI

(Note: Asterisk before ID indicates a TADSS.)

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### Additional Non-Standard Resources

None

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

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

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

AAR's are essential to ensure the quality of the instruction and the efficiency of the course.

Schedule AAR's with Instructors to solicit feedback on the techniques and procedures in use.

Schedule AAR's with the Student's to solicit feedback on Instructional techniques, information being presented, and efficiency of the course.

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