

**Summary Report for Individual Task  
061-271-1473  
Purge M198 Fire Control Equipment (U6)  
Status: Approved**

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DISTRIBUTION RESTRICTION: Approved for public release; distribution is unlimited.

DESTRUCTION NOTICE: None

**Condition:** Given an M198 Howitzer scheduled for maintenance, fire control instruments, a field artillery mechanic's tool kit, and nitrogen.

**Standard:** Purge fire control equipment so that all instruments maintain designated PSI readings and damaged and unserviceable equipment is replaced IAW the technical guidance listed in TM 9-1025-211-10.

**Special Condition:** None

**Safety Level:** Low

**MOPP:**

**Task Statements**

**Cue:** Howitzer is scheduled for maintenance.

**DANGER**

None

**WARNING**

None

**CAUTION**

None

**Remarks:** None

**Notes:** None

## Performance Steps

### 1. Set up fire control purging kit.

- a. Remove protective cover from outlet of dry nitrogen tank.
- b. Open tank valve just enough to rid valve seat of any foreign matter. Close valve.
- c. Attach regulator securely to tank valve using appropriate adapter from kit.

**Note:**

With regulator (4) use a right- or left-hand threaded 9/16 x 18NF adapter from kit as required.

- d. Attach hose assembly to low pressure port on regulator.
- e. Rotate pressure regulator valve counterclockwise to extreme closed position.
- f. Open tank valve slowly until the maximum tank pressure registers on high pressure gauge.

**Note:**

If pressure indicated is less than 100 psi (690 kPa), replace tank. On all newly designed fire control instruments, a pressure relief valve is installed to relieve pressure at 5 psi (34 kPa). This is to simplify the purging operation. Pressure relief valves will be installed at exhaust port openings and are readily visible. The M17 and M18 fire control quadrants have pressure relief valves that open at 3 psi (21 kPa). The remainder of the M198 fire control relief valves open at 5 psi .

g. Rotate pressure regulator valve clockwise slowly until approximately 5 psi (34 kPa) is registered on low pressure gauge.

- h. Check for nitrogen flow from hose.
- i. Close pressure regulator valve.

## WARNING

Never exceed pressures indicated in following procedure. Do not purge any instrument if there is no illumination in counter assembly. The radiological protection officer (RPO) must be notified, and the instrument will be replaced by a serviceable one and be evacuated properly packed to direct support.

### 2. Service M139 alignment device.

**Note:**

- a. Remove entrance port cap.
- b. Remove exit port screw
- c. Attach free end of hose assembly to entrance port valve.
- d. Open valve on pressure regulator until 7 psi (48 kPa) is registered on low pressure gauge.
- e. Maintain this pressure for 5 minutes.
- f. Close valve.
- g. Apply sealing compound to exit port screw and install.

- h. Rotate valve clockwise until low pressure gauge reads 1 psi (7 kPa).
- i. Maintain gas pressure at 1 psi (7kpa) for 10 seconds.
- j. Turn pressure regulator valve counterclockwise to shut off flow of nitrogen.
- k. Turn tank valve clockwise.
- l. Remove hose assembly from entrance port valve.
- m. Install entrance port cap.

## **WARNING**

When using radioactively illuminated fire control equipment, follow radiation hazard procedures on inside front cover.

## **CAUTION**

Never exceed pressures indicated in following procedure. Do not purge any instrument if there is no illumination in counter assembly. The radiological Protection officer (RPO) must be notified, and the instrument will be replaced by a serviceable one and be evacuated properly packed to direct support.

### 3. Service M1A1 collimator.

- a. Remove collimator shield.
- b. Remove entrance port cap and two exit port screws
- c. Attach free end of hose assembly to entrance port valve.
- d. Open valve on pressure regulator until low pressure gauge indicates 3 psi (20.7 kPa). Maintain pressure for 5 minutes.  
Note:  
During the purging procedure, check to be certain that nitrogen is escaping from both outlets.
- e. Close valve on pressure regulator.
- f. Apply sealing compound to threads of two exit port screws and install.
- g. Open valve on pressure regulator until low pressure gauge indicates 3 psi (20.7 kPa). Maintain pressure for 10 seconds.
- h. Close valve on pressure regulator.
- i. Apply a soap solution to all sealed joints and screws.

j. Check for leaks by observing the low pressure gauge and the M1A1 collimator for 5 minutes minimum. If pressure drops and bubbles appear, repair.

k. Remove hose assembly.

l. Depress valve stem to release pressure.

m. Reconnect hose assembly to entrance port valve.

n. Open valve on pressure regulator until low pressure gauge indicates 1 psi (7 kPa). Maintain pressure for 10 seconds.

o. Close valve on pressure regulator.

p. Remove hose assembly.

q. Install entrance port cap.

r. Install collimator shield.

## CAUTION

When using radioactively illuminated fire control equipment, follow radiation hazard procedures on inside front cover.

4. Service the M138A1 Elbow Telescope.

a. Remove entrance port cap.

b. Attach free end of the hose assembly to entrance port valve

c. Open valve on pressure regulator until approximately 8 psi (55 kPa) is registered on low pressure gage or until nitrogen is escaping from the exit port

d. Maintain this pressure for 5 minutes

e. Close valve on pressure regulator.

f. Remove hose assembly from entrance

g. Install the entrance port cap

5. Remove the purging kit.

a. Close tank valve.

b. Relieve pressure between tank and regulator.

c. Remove hose assembly.

d. Remove regulator and adapter.

e. Replace protective cover on tank.

(Asterisks indicates a leader performance step.)

**Evaluation Preparation:** Setup: Ensure that all information, references, and equipment required to perform the task are available. Use the performance measures and the references to score the Soldier's performance. Brief the Soldier. Tell the Soldier what he is required to IAW the task conditions and standards.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Set up fire control purging kit.			
2. Serviced M139 alignment device.			
3. Serviced M1A1 collimator.			
4. Serviced the M138A1 Elbow Telescope.			
5. Removed the purging kit.			

**Supporting Reference(s):**

Step Number	Reference ID	Reference Name	Required	Primary
	TM 9-1025-211-10	Operators Manual (Crew) for Howitzer, Medium, Towed: 155-MM, M198 (NSN 1025-01-026-6648) (EIC: 3EL) {TM 08198A-10/1} (Reprinted W/Basic Incl C1-4)	No	No

**Environment:** Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT. Environmental protection is not just the law but also 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.

**Safety:** 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, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination. Brief personnel IAW OSHA HAZCOM requirements.

**Prerequisite Individual Tasks :** None

**Supporting Individual Tasks :** None

**Supported Individual Tasks :** None

**Supported Collective Tasks :** None