

**551-88U-2425**  
**Inspect Maintenance of Engine Protective System**  
**Status: Approved**

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

**Destruction Notice:** None

**Foreign Disclosure: FD1** - This training product has been reviewed by the training developers in coordination with the Transportation School, Fort Lee, VA foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

**Conditions:** Assigned as a Railway Specialist given the requirement to advise COCOM/Host Nation personnel on how to inspect maintenance of the engine protective system, given PPE, a complete risk assessment, all applicable publications, forms, records, tools, materials, personnel, and equipment, day or night, in all weather conditions, and in an operational environment. Some iterations of this task should be performed in MOPP 4.

**Standards:** Inspect maintenance of engine protective system without causing injury to personnel or damage to equipment.

**Special Conditions:** None

**Safety Risk:** Low

**MOPP 4:** Sometimes

<b>Task Statements</b>
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**Cue:** Your ERC team has been tasked to advise COCOM/Host Nation personnel on how to inspect maintenance of the engine protective system.

<b>DANGER</b>
None

<b>WARNING</b>
None

<b>CAUTION</b>
Working around live tracks is always dangerous. Follow all safety procedures outlined in the GCOR and ATP 4-14.

**Remarks:** Observe personnel to ensure the following inspection steps were performed.

**Notes:** None

## Performance Steps

1. Verify cause of overspeed trip malfunction.
  - a. Check to see if overspeed trip is properly set.
  - b. Check to see if spring is weak or broken.
  - c. Check that governor oil is at proper level.
  - d. Check injector racks, ensuring that they are correctly set and operational.
  
2. Verify cause of hot engine protective device malfunction.
  - a. Check for high lubricating oil temperature.
  - b. Check for high water temperature.
  
3. Verify cause of low water protective device malfunction.
  - a. Check to see that limits are properly set.
  - b. Check water cooler and radiator for silt.
  - c. Check pump for proper operation.
  - d. Check piping for obstruction or breaks.

(Asterisks indicates a leader performance step.)

**Evaluation Guidance:** Mark each performance measure either GO or NO-GO. The Soldier must complete all steps to receive a GO for each measure. All measures must be marked GO to receive an overall GO on the task. If the Soldier fails any performance measure, show what was done wrong and how to do it correctly.

**Evaluation Preparation:** Ensure that all materials required to perform the task are available. Tell the Soldier that he/she will be evaluated on checking maintenance of engine protective system.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Verified cause of overspeed trip malfunction.			
2. Verified cause of hot engine protective device malfunction.			
3. Verified cause of low water protective device malfunction.			

### Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	ATP 4-14	EXPEDITIONARY RAILWAY CENTER OPERATIONS <a href="http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp4_14.pdf">http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp4_14.pdf</a>	Yes	No
	EMD MAINTENANCE INSTRUCT.	EMD Maintenance Instructions	Yes	Yes
	GCOR	General Code of Operating Rules (GCOR), Seventh Edition	Yes	No

**TADSS :** None

### Equipment Items (LIN):

LIN	Name
NA1520	Case, Ear Plug
DA3045	Boots, Safety

HA4052	Safety Glasses, Revision Sawfly E
DA159T	Vest Safety RV-1
L80358	Locomotive Diesel: 56-1/2 In Gauge 100 to 120 Ton DS
J68064	GLOVES LTHR MN WORK 1

**Material Items (NSN) :**

Step ID	NSN	LIN	Title	Qty
No materiel items specified				

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

AR 200-1 delineates TRADOC responsibilities to integrate environmental requirements across DOTMLPF and ensures all training procedures, training manuals, and training doctrine includes sound environmental practices and considerations. The Army's environmental vision is to be a national leader in environmental and natural resource stewardship for present and future generations as an integral part of all Army missions. Environmental protection is never completed. Continuously be alert to ways to protect our environment and reduce waste.

Leaders must ensure that their unit has an active and strong environmental program. They must understand the laws and know what actions to take. Leaders bring focus, direction, and commitment to environmental protection. Commanding officers should ensure the following environmental programs are in place and are being maintained:

- Hazardous materials program.
- Hazardous waste program.
- Hazardous communications program.
- Pollution prevention and hazardous waste minimization recycling program.
- Spill prevention and response plan program.

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

All operations will be performed to protect and preserve Army personnel and property against accidental loss. Procedures will provide for public safety incidental to Army operations and activities and safe and healthful workplaces, procedures, and equipment. Observe all safety and/or environment precautions regarding electricity, cable, and lines. Provide ventilation for exhaust fumes during equipment operation and use hearing protection when required IAW AR 385-10, the Clean Air Act (CAA) and the CAA amendments, and the OSHA Hazard Communication standard.

Accidents are an unacceptable impediment to Army missions, readiness, morale, and resources. Decision makers at every level will employ risk management approaches to effectively preclude unacceptable risk to the safety of personnel and property affiliated with this task.

- (a) Take personal responsibility.
- (b) Practice safe operations.
- (c) Recognize unsafe acts and conditions.
- (d) Take action to prevent accidents.
- (e) Report unsafe acts and conditions.
- (f) Work as a team.

**Prerequisite Individual Tasks :** None

**Supporting Individual Tasks :** None

**Supported Individual Tasks :** None

**Supported Collective Tasks :** None

**Knowledges :**

Knowledge ID	Knowledge Name
K-551-P-0200	Knowledge of locomotive maintenance requirements
K-551-P-0203	Knowledge of locomotive electrical systems and components
K-551-P-0201	Knowledge of locomotive inspection procedures
K-551-P-0202	Knowledge of locomotive repair standards and procedures
K-551-P-0205	Knowledge of locomotive systems and components
K-551-P-0196	Knowledge of locomotive operations

K-551-P-0195	Knowledge of locomotive maintenance
K-551-U-0046	Knowledge of locomotive engine
K-551-P-0072	Knowledge of locomotive lube oil system components and function
K-551-U-0033	Knowledge of locomotives
K-551-P-0191	Knowledge of locomotive electrical components and function

**Skills :**

<b>Skill ID</b>	<b>Skill Name</b>
S-551-P-0279	Ability to inspect locomotive

**ICTL Data :** None