

551-88U-1400
Identify Internal Locomotive Systems and Components
Status: Approved

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: In an operational environment, assigned as a Railway Specialist with the requirement to advise COCOM/Host Nation personnel on identifying internal locomotive systems and components, given a complete risk assessment, Personal Protective Equipment, locomotive, and references , day or night, in all weather conditions. Standard MOPP 4 conditions do not exist for this task. See the MOPP 4 statement for specific conditions.

Standards: Identify internal locomotive systems and components without causing injury to personnel or damage to equipment, all in accordance with applicable references.

Special Conditions: None

Safety Risk: Low

MOPP 4: N/A

Task Statements

Cue: Your team has just arrived at a new rail yard. You are tasked with advising COCOM/Host Nation personnel on identifying internal locomotive systems and components.

DANGER

None

WARNING

None

CAUTION

Working around live tracks is always dangerous. Follow all safety procedures outlined in the GCOR. Install portable derail or flag protection IAW GCOR and ATP 4-14.

Remarks: None

Notes: None

Performance Steps

1. Identify Lube Oil System
 - a. Scavenging oil system
 - b. Main lube oil and piston cooling pump
 - c. Lines to crankshaft
 - d. Filter
2. Identify Cooling System Components
 - a. Water supply
 - b. Temperature controls
 - c. Water pump
 - d. Radiators and shutters
3. Identify Fuel System Components
 - a. Fuel tank
 - b. External fuel line
 - c. Fuel gauge or site-glass that is at ground level
 - d. Fuel suction strainer
 - e. Fuel injector
4. Identify Engine Air System
 - a. Blower
 - b. Blower support housing
 - c. Blower rotors
 - d. Air intake filter assembly
5. Identify Exhaust System Components
 - a. Connections
 - b. Spark arrestors
6. Identify Diesel Engine Protective System
 - a. Electrical equipment
 - b. Electrical protective system indicator lights
 - c. HOT ENGINE protective device
 - d. LOW OIL or GOV DOWN protective device

e. LOW WATER protective device

7. Identify Fuses in the Electrical Cabinet
8. Identify Battery and Charging System
9. Identify Engine Cooling Fans and Traction Motor Blowers
10. Identify Traction Motors
11. Identify Main Generator
12. Identify Auxiliary Generator
13. Identify Load Regulator
14. Identify Alternator
15. Identify Reverser and Throttle
16. Identify Contactors
17. Identify Relays
18. Identify Control Circuits
19. Identify Lighting Circuits
20. Identify Electrical Protective System

(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 identifying internal locomotive systems and components.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Identified Lube Oil System			
2. Identified Cooling System Components			
3. Identified Fuel System Components			
4. Identified Engine Air System			
5. Identified Exhaust System Components			
6. Identified Diesel Engine Protective System			
7. Identified Fuses in the Electrical Cabinet			
8. Identified Battery and Charging System			
9. Identified Engine Cooling Fans and Traction Motor Blowers			
10. Identified Traction Motors			
11. Identified Main Generator			
12. Identified Auxiliary Generator			
13. Identified Load Regulator			
14. Identified Alternator			
15. Identified Reverser and Throttle			
16. Identified Contactors			
17. Identified Relays			
18. Identified Control Circuits			
19. Identified Lighting Circuits			
20. Identified Electrical Protective System			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	EMD 645E	EMD 645E Maintenance Instructions	Yes	Yes

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 : None

Skills : None

ICTL Data : None