

052-IS2-2124
Operate Original Equipment Manufacturer (OEM) Software Systems to Troubleshoot and Configure Prime Movers
Status: Approved

Security Classification: U - Unclassified

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 Fort Leonard Wood 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 or in support of Disaster Relief Operations, where operation of Original Equipment Manufacturer (OEM) software system to troubleshoot and configure a prime mover is required, given the appropriate OEM software system, a laptop computer or Maintenance Support Device (MSD), a power unit, TM 9-6115-484-14 and associated manufacturer's literature. This task should not be trained in MOPP 4.

Standards: Operate Original Equipment Manufacturer (OEM) software systems to troubleshoot and configure prime movers by correctly connecting its associated hardware and effectively navigating the software in troubleshooting and engine configuration procedures IAW TM 9-6115-484-14 and the associated manufacturer's literature with 100% accuracy, resulting in achieving proficiency in the operation of OEM software system without injury to personnel or damage to equipment utilizing the Go/No-Go criteria.

Special Conditions: None

Safety Risk: Low

MOPP 4: Never

Task Statements

Cue: None

DANGER

This task should only be performed by qualified personnel who are knowledgeable in the operation and maintenance of the power generation equipment and its associated hazards. Failure to comply may result in serious injury or death.

Electrical shock hazard is possible when working with power generation equipment. Ensure appropriate personal protective equipment is utilized IAW NFPA 70E. Failure to comply may result in serious injury or death.

Remove rings, necklaces, other jewelry, and loose clothing. Failure to comply may result in permanent injury or death.

WARNING

Personnel must wear appropriate hearing protection when performing this task with a running engine.

Beware of hot surfaces when working with engine that has been running recently. Failure to comply may result in serious burn injury.

Do not operate equipment unless proper grounding system is installed. Failure to comply may cause injury to personnel or damage to equipment

CAUTION

None

Remarks: None

Notes: The performance steps below are intended to be general procedures for all the electronic tools of different engines. Always consult the appropriate manufacturer's literature for specific operational procedures to ensure accurate diagnoses.

Performance Steps

1. Inventory the OEM software system equipment to ensure all hardware is present.
2. Review the manufacturer's literature to become familiar with the operating procedure of the software system.
3. Start and initialize the computer.
4. Ensure the OEM Software system is installed on the computer to be used IAW the manufacturer's literature.
5. Remove electrical power from the Engine Control Module (ECM) by placing the Engine Control Switch (ECS) in the OFF/RESET position or equivalent on nonorganic equipment.
6. Connect the communication interface device with the engine as prescribed in the manufacturer's literature.
7. Connect the communication interface device with the computer with the software system installed according to manufacturer's literature.
8. Connect the OEM software system to the engine IAW the manufacturer's literature.
9. Verify that the communication between the software system and the engine has been established IAW the manufacturer's literature.
10. Navigate the application utilizing the manufacturer's literature to get familiar with the software system operating procedures.
11. Verify that the Engine Control Module settings are configured appropriately utilizing the software system application.
12. Perform engine fault diagnoses utilizing the software system.
 - Note: Proceed to the next step if no fault is identified.
 - a. Navigate the software for the engine component function testing section and test the selected engine components for presence of a fault.
 - b. Troubleshoot and make correction to all identified fault.
 - c. Verify that the fault has been cleared utilizing the software system.
13. Shut down the computer.
 - a. Disconnect the software system application communication from the ECM.
 - b. Close the software system application.
 - c. Select Shut down from the windows menu.
14. Disconnect and properly store the communication interface device and associated cables.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: Score the Soldier Go if all performance measures are passed (P). Score the Soldier No-Go if any performance measure is failed (F). If the Soldier scores a No-Go, show the Soldier what was done wrong and how to do it correctly.

Evaluation Preparation: Provide the Soldier with the items in the conditions. Give the Soldier a safety briefing before starting the test, and ensure that safety precautions are followed. Prepared the testing area and equipment in advance to ensure that task standards can be met.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Inventoried the OEM software system equipment to ensure all hardware is present.			
2. Reviewed the manufacturer's literature to become familiar with the operating procedure of the software system.			
3. Started and initialized the computer.			
4. Ensured the OEM Software system is installed on the computer to be used IAW the manufacturer's literature.			
5. Removed electrical power from the Engine Control Module (ECM) by placing the Engine Control Switch (ECS) in the OFF/RESET position or equivalent on nonorganic equipment.			
6. Connected the communication interface device with the engine as prescribed in the manufacturer's literature.			
7. Connected the communication interface device with the computer with the software system installed according to manufacturer's literature.			
8. Connected the OEM software system to the engine IAW the manufacturer's literature.			
9. Verified that the communication between the software system and the engine has been established IAW the manufacturer's literature.			
10. Navigated the application utilizing the manufacturer's literature to get familiar with the software system operating procedures.			
11. Verified that the Engine Control Module settings are configured appropriately utilizing the software system application.			
12. Performed engine fault diagnoses utilizing the software system.			
13. Shut down the computer.			
14. Disconnected and properly store the communication interface device and associated cables.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary	Source Information
	MFG USER MANUAL	Manufacturer's User Manual	Yes	No	
	TM 9-6115-484-14	GENERATOR - 840 KW MEP-PU-810A/B OPERATION AND MAINTENANCE	Yes	No	
	TM 9-6115-746-13-1	Commercial Technical Manual Operation and Maintenance Manual Generator - 840 KW MEP-PU-810 A/B Part Number 1R0253-4/1R0254-4 Operation and Maintenance Volume 1 Chapters 1 Through 22	Yes	Yes	
	TM 9-6115-746-13-2	Commercial Technical Manual Generator - 840 KW MEP-PU-810A/B Radian Part Numbers: 1R0253-4/1R0254-4 Operation and Maintenance Annexes A Through J	Yes	No	
	TM 9-6115-746-13-3	TROUBLESHOOTING PROCEDURES FOR POWER UNIT - 840KW MEP-PU-810A/B P/N: 1R0253/1R0254 (THIS ITEM IS INCLUDED ON EM 0086)	Yes	No	
	TM 9-6115-746-13-4	POWER UNIT, 840 KW, MEP-PU-810A/B (NSN 6115-01-486-4033/6115-01- 486-4032) DRS RADIAN PART NUMBERS: 1R0253/1R0254 PARTS MANUAL (THIS ITEM IS INCLUDED ON EM 0086)	Yes	No	

TADSS : None

Equipment Items (LIN): None

Materiel Items (NSN) :

Step ID	NSN	LIN	Title	Qty
	6625-01-599-9556	T92889	Test Set, Electronic Systems: AN/PSM 95-D MSD V3 Type 1	1
	6115-01-486-4032	G17800	Generator Set: Diesel Engine Driven MEP-810B	1
	5895-01-540-4543	70210N	Computer, Laptop	1
	6625-01-476-1432	A09673	Adapter, Communication	1

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.

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.

Prerequisite Individual Tasks : None

Supporting Individual Tasks : None

Supported Individual Tasks : None

Supported Collective Tasks : None

Knowledges :

Knowledge ID	Knowledge Name
052-K-00213	Theory of Diesel Engines
052-K-00196	Operate Mechanical Test Equipment
052-K-00134	Basic Engine Characteristics
052-K-00203	Know How to Read Technical Manuals
052-K-00188	Mechanical Troubleshooting Methods
K8122	Use of Caterpillar Electronic Technician (ET Tool)

Skills :

Skill ID	Skill Name
052-S-00167	Use of Manufactures Technical Manuals
S0072	Record Data on Maintenance Forms

ICTL Data : None