

Summary Report for Individual Task
551-88M-2312
Supervise Operation of the APU on the M1000 Semitrailer
Status: Approved

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

Destruction Notice: None

Foreign Disclosure: FD5 - This product/publication has been reviewed by the product developers in coordination with the Fort Lee, VA. foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

Condition: In an Operational Environment, given a Heavy Equipment Transporter (HET) semitrailer with functioning auxiliary power unit (APU), hearing protection, semitrailer basic issue items (BII), and level ground to operate. Some iterations of this task should be performed in MOPP 4. This task should be trained under IED Threat conditions.

Standard: Supervise Operation of all required startup procedures without error for the APU and without injury to personnel or damage to equipment.

Special Condition: None

Safety Risk: Medium

MOPP 4: Sometimes

Task Statements

Cue: You are required to provide power to the M1000 semitrailer to support a recovery operation.

DANGER

Soldiers must be aware of the inherent dangers of working in and around tactical wheeled vehicles. Hot surfaces, sharp, moving objects such as fan blades, slippery surfaces, and excessively loud noises are all dangers. These dangers are also applicable to hazardous cargo being transported (explosive hazard) (as applicable). Each Soldier should take every precaution not to become a victim of these dangers by following regulatory guidance and risk management rules. If armed the vehicle has additional ammunition explosive and negligent discharge hazards.

WARNING

Adhere to all WARNING statements in the semitrailer TM for this operation.

CAUTION

Adhere to all CAUTION statements in the semitrailer TM for this operation.

Remarks: None

Notes: None

Performance Steps

1. Conduct a Risk Assessment of the Operation. Complete the worksheet and obtain required signature approval.
 - a. Identify the Hazards.
 - b. Assess the Risks.
 - c. Develop Controls.
 - d. Implement Controls.
 - e. Supervise and evaluate the operation.
2. Provide direct supervision of steps 3 through 21 below and ensure completion as required in the referenced technical manuals for this operation.
3. Remove four wheel chocks from gooseneck.

Note: Ensure that the semitrailer is parked on level ground. If the tractor and semitrailer are coupled, apply the semitrailer's parking brakes.
4. Place wheel chocks in front and behind each outer dual tire on both curbside and streetside No.1 bogies.

WARNING

On some semitrailers, a solar battery charger is mounted on top of the gooseneck directly in front of the spare tires. Persons working on top of the gooseneck must take EXTREME care not to step on or trip over it. Failure to follow this warning may result in injury to personnel or damage to equipment.

5. At rear of gooseneck, gain access to APU by unhooking step retainer and raising step section up and forward. Secure step section by hooking top step retainer to strap on step section.

CAUTION

The hydraulic tank oil valve must be open prior to starting the APU. Failure to follow this caution may result in serious damage to the hydraulic pump.

6. Open hydraulic tank oil valve.
7. Check that fuel petcock is in OPEN position.
8. Unhook strap from step and lower step to normal position. Secure step in place by hooking step retainer to catch on fixed bottom step section.

WARNING

Hearing protection is required within 10 feet of the APU when the APU is running. Failure to follow this warning may result in injury to personnel.

9. Open cover to APU control box. Pull out throttle control fully.

10. Turn START switch counterclockwise to GLOW position and hold. In about 15-20 seconds, depending upon outside ambient temperature, the glow plug indicator for the GLOW TYPE indicator will glow brightly.

11. The glow plug indicator for the LAMP TYPE indicator will light immediately. In 5 seconds the light will extinguish, indicating that the glow plug is warm enough to assist in starting.

CAUTION

- Release the switch from the START position to prevent overheating of the starter motor if the APU fails to start within 15 seconds. Allow the starter motor to cool 1 to 2 minutes before trying again. If the APU fails to start after four tries, notify field maintenance.
- DO NOT rotate the START switch to the START position while the starter motor is still turning from the previous try. This could result in serious damage to the starter motor and engine flywheel ring gear.
- Rotate START switch to OFF position after APU has started, or damage to equipment may result.

12. Turn START switch clockwise to START position and hold for 15 seconds or until APU starts.

13. Once APU starts, immediately rotate START switch to OFF position.

14. If APU fires, but does not start, rotate START switch to OFF position. Wait for engine to stop turning and try again.

15. If APU fails to start after four attempts, rotate START switch to OFF position and notify field maintenance.

16. Check oil indicator light once APU starts. If oil pressure indicator light does not go out once APU has run for 15 seconds, shut down APU by pushing in throttle control. Notify field maintenance. If oil pressure indicator light does go out, proceed.

CAUTION

DO NOT subject the APU to any load until it has warmed up properly. Premature failure may occur and the life of the engine may be shortened.

17. Allow APU to run at least 3 to 5 minutes to warm up properly.

18. Reduce engine speed to idle by pushing inward on throttle control. APU is ready for normal operation.

19. Allow APU to run continuously for at least 30 minutes to recharge APU battery whenever operations permit.

20. Run APU until all PMCS tasks are completed if it has been started for PMCS. This is especially important if the semitrailer has been stored and the APU has not been started for several days or if the weather is cold.

21. Shutdown APU.

- a. Push in throttle control completely to stop APU.
- b. Ensure low oil pressure light and glow plug indicator are not lit.
- c. Close cover to APU control box.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: Score the soldier GO if all performance measures are passed. Score the soldier NO-GO if any performance measure is failed. If any performance measure is failed, tell the soldier what was done wrong and how to do it correctly.

Evaluation Preparation: SETUP: Brief the Soldier on task specifications. Provide a Heavy Equipment Transporter (HET) semitrailer with functioning auxiliary power unit (APU), hearing protection, semitrailer basic issue items (BI), and level ground to operate.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Performed a Deliberate Risk Assessment for the following procedures.			
2. Supervised the driver and assistant driver on steps 3 though 21 of this procedure.			
3. Removed four wheel chocks from gooseneck.			
4. Placed wheel chocks in front and behind each outer dual tire on both curbside and streetside No.1 bogies.			
5. At rear of gooseneck, gained access to APU by unhooking step retainer and raising step section up and forward. Secured step section by hooking top step retainer to strap on step section.			
6. Opened hydraulic tank oil valve.			
7. Checked that fuel petcock is in OPEN position.			
8. Unhooked strap from step and lower step to normal position. Secured step in place by hooking step retainer to catch on fixed bottom step section.			
9. Opened cover to APU control box. Pulled out throttle control fully.			
10. Turned START switch counterclockwise to GLOW position and hold. In about 15-20 seconds, depending upon outside ambient temperature, the glow plug indicator for the GLOW TYPE indicator will glow brightly.			
11. The glow plug indicator for the LAMP TYPE indicator will light immediately. In 5 seconds the light will extinguish, indicating that the glow plug is warm enough to assist in starting.			
12. Turned START switch clockwise to START position and held for 15 seconds or until APU started.			
13. Once APU started, immediately rotated START switch to OFF position.			
14. If APU fired, but did not start, rotated START switch to OFF position. Waited for engine to stop turning and tried again.			
15. If APU failed to start after four attempts, rotated START switch to OFF position and notified field maintenance.			
16. Checked oil indicator light once APU started. If oil pressure indicator light did not go out once APU had run for 15 seconds, shut down APU by pushing in throttle control. Notified field maintenance. If oil presure indicator light did go out, proceeded.			
17. Allowed APU to run at least 3 to 5 minutes to warm up properly.			
18. Reduced engine speed to idle by pushing inward on throttle control. APU is ready for normal operation.			
19. Allowed APU to run continuously for at least 30 minutes to recharge APU battery whenever operations permitted.			
20. Ran APU until all PMCS tasks were completed if it had been started for PMCS. This is especially important if the semitrailer had been stored and the APU had not been started for several days or if the weather was cold.			
21. Shutdown APU.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	TM 9-2330-381-14	OPERATORS, UNIT, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL FOR HEAVY EQUIPMENT TRANSPORTER SEMITRAILER, 70 TON, M1000 (NSN 2330-01-303-8832) (EIC: CXU) {TM 09295A-14/1}D	Yes	Yes

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.

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. 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 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. CAUTION

The hydraulic tank oil valve must be open prior to starting the APU or serious damage to the hydraulic pump may result.

WARNING:

Hearing protection is required within 10 feet (3m) of the APU when the APU is running or injury to personnel may result.

CAUTION:

Oil pressure light must go out within 15 seconds. If oil pressure light stays lit, shut down the APU immediately or damage to equipment may result.

CAUTION:

If the APU fails to start within 15 seconds, release the switch from the START position to prevent overheating of the starter motor. Allow the starter motor to cool 1 to 2 minutes before trying again. If the APU fails to start after four tries, notify unit maintenance.

Do not rotate START switch to the START position while the starter motor is still turning from the previous try. After APU has started, rotate switch to OFF position or damage to equipment may result.

CAUTION:

Do not subject the APU to any load until it has warmed up properly, or premature failure may occur and life of the engine may be shortened.

Prerequisite Individual Tasks : None

Supporting Individual Tasks : None

Supported Individual Tasks : None

Supported Collective Tasks : None