

STP 55-88M14-SM-TG

SOLDIER'S MANUAL AND TRAINER'S GUIDE

**MOS 88M
MOTOR TRANSPORT OPERATOR
SKILL LEVELS 1, 2, 3, AND 4**

MAY 2009

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MOS 88M Motor Transport Operator Skill Levels 1, 2, 3, and 4

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PREFACE

This Soldier Training Publication (STP) is intended for Soldiers holding military occupational specialty (MOS) 88M, Skill Levels (SLs) 1, 2, 3, and 4, their supervisors, trainers, and commanders. It contains an MOS Training Plan that provides information needed to plan, conduct, and evaluate unit training, one of the most important jobs of military leaders. It includes standardized training objectives in the form of task summaries that can be used to train and evaluate Soldiers on critical tasks supporting unit missions during wartime.

Soldiers holding MOS 88M should have access to this publication. Trainers and first-line supervisors should actively plan for a Soldiers' access, making it available in work areas, unit learning centers, and unit libraries. However, it is not intended for an individual copy to be provided to each MOS holder. The STP is obtainable on-line from the Reimer Digital Library (RDL) at <http://www.adtdl.army.mil/atdls.htm>.

Tasks in this manual apply to the Active Army, the Army National Guard (ARNG)/Army National Guard of the United States (ARNGUS), and the United States Army Reserve (USAR) unless otherwise stated.

The proponent of this publication is Headquarters (HQ) Training and Doctrine Command (TRADOC). Submit comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Commander, Training Directorate, Transportation Training Division, ATTN: ATCL-TDM, 2221 Adams Avenue, Fort Lee, VA 23801-2102.

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CHAPTER 1

Introduction

1-1. General. This Soldier Training Publication (STP) identifies individual military occupation specialty (MOS) training requirements for Soldiers holding MOS 88M. Commanders, trainers, and Soldiers should use it to plan, conduct, and evaluate individual training in units. The STP is the primary MOS reference for supporting self-development, evaluating MOS proficiency, and training of 88M Soldiers. Commanders employ two primary methods to evaluate a Soldiers' proficiency:

- Commander's evaluation. Commander's evaluations are local tests or assessments of Soldiers' performance of MOS-specific and common tasks critical to the unit mission. They may be conducted year-round.
- Common task test (CTT). CTTs are hands-on tests used to evaluate proficiency on common tasks. Alternate written tests are provided if equipment is not available for hands-on testing.

This publication is the Soldier's primary reference to prepare for a commander's evaluation of MOS-specific tasks. It contains task summaries for all critical tasks specific to the MOS and skill level (SL). Commanders and trainers will use this Soldier's Manual/Trainer's Guide (SM/TG) to plan and conduct training and commander's evaluations. Chapter 2, Trainer's Guide, contains information needed to plan training requirements for this MOS. The trainer's guide—

- Identifies subject areas in which Soldiers must be trained.
- Identifies critical tasks for each subject area.
- Specifies where Soldiers are initially trained on each task.
- Recommends how often each task should be trained to sustain proficiency.
- Recommends a strategy for cross-training Soldiers.
- Recommends a strategy for training Soldiers to perform higher-level tasks.

Use this STP along with STP 21-1-SMCT (Soldier's Manual of Common Tasks, Skill Level 1), STP 21-24-SMCT (Soldier's Manual of Common Tasks, Skill Levels 2-4), Army training and evaluation programs (ARTEPs), FM 25-4 (How to Conduct Training Exercises), FM 25-5 (Training for Mobilization and War), FM 7-0 (Training for Full Spectrum Operations), and FM 7-1 (Battle Focused Training) to establish effective training plans and programs that integrate Soldier, leader, and collective tasks.

1-2. Task Summaries. Task summaries outline wartime performance requirements for each critical task in the STP. They provide the Soldier and trainer with the information necessary to prepare, conduct, and evaluate critical task training. As a minimum, task summaries include information Soldiers must know and skills they must perform to standard for each task. The following is the task summary format:

- Task number. The task number is a 10-digit number that identifies the task and skill level. Include the task number and title in any correspondence relating to the task.
- Task title. The task title identifies the action to be performed.
- Conditions. The task condition statement describes the field or garrison conditions under which the task will be performed and identifies the equipment, tools, references, job aids, and supporting personnel that the Soldier needs to perform the task in wartime.
- Standards. The task standards describe how well and to what level of proficiency the Soldier must perform the task under wartime conditions. Standards are typically expressed in terms of accuracy, completeness, duration, sequence, speed, and tolerance.

- Performance steps. A performance step provides, in detail, what is required on how to perform the task.
- Performance measures. The performance measure identifies specific actions that the Soldier must accomplish to complete the task successfully. Performance measures appear in a GO/NO-GO rating format for easy evaluation. Some tasks may also include detailed training information in a Training Information Outline and an Evaluation Preparation Section. The Evaluation Preparation Section indicates necessary modifications to task performance in order to train and evaluate a task that cannot be trained to the wartime standard under wartime conditions. It may also include special training and evaluation preparation instructions to accommodate these modifications and any instructions that should be given to the Soldier before evaluation.
- References. This section identifies all references that are cited in the publication. References also provide more detailed explanations of task performance requirements than are given in the task summary. References are listed by type, identification number, title, and date.
- Glossary. The glossary is a comprehensive list of acronyms, abbreviations, and definitions used in the STP.
- Warnings. Warnings alert users to the possibility of immediate personal injury or equipment damage.
- Notes. Notes provide additional supportive explanations or tips relating to task performance.

1-3. Soldier's Responsibilities. Each Soldier is responsible for performing individual tasks identified by the first-line supervisor based on the unit's Mission Essential Task List (METL). Soldiers must perform tasks to the standards included in the task summary. If Soldiers have questions about tasks or which tasks in this manual they must perform, they are responsible for asking their first-line supervisor for clarification. First-line supervisors know how to perform each task or can direct Soldiers to appropriate training materials, including current field manuals (FMs), technical manuals (TMs), and Army regulations (ARs). Soldiers are responsible for using these materials to maintain performance. They are also responsible for maintaining performance of all common tasks listed in the Soldiers Manual of Common Tasks (SMCTs) at their current skill level and below. Periodically, Soldiers should ask their supervisor or another Soldier to check their performance to ensure that they can perform the tasks.

1-4. NCO Self-Development and the STP. Self-development is a key component of leader development. Leaders follow planned, progressive, sequential self development programs developed by the individual NCO and his/her first-line supervisor to enhance and sustain military competencies. Self-development consists of individual study, research, professional reading, practice, and self assessment. The self-development concept requires NCOs, as Army professionals, to take responsibility for remaining current in all phases of their MOS. The STP is the NCO's primary source for maintaining MOS proficiency. Another important resource for self-development is the Army Correspondence Course Program (ACCP). For enrollment information in this program, visit on line through the Army Institute for Professional Development (AIPD) website at <http://www.atsc.army.mil/accp/aipdnew.asp>.

1-5. Commander's Responsibilities. Commanders must ensure that their unit training plans prepare the unit for war by enabling Soldiers to develop and sustain proficiency in their MOS and SL tasks. Commanders should design unit-training programs to provide individual training for all Soldiers assigned to the unit and to evaluate Soldier proficiency routinely as part of the commander's evaluation program. The unit-training program should also integrate individual training with crew drills and other collective training. The MOS Training Plan provides information on which to base integration, cross-train, train-up, and sustainment training programs. Commanders should use the MOS Training Plan when developing unit-training plans.

1-6. Trainer's Responsibilities. Training is the business of all unit leaders. First-line leaders are the principal trainers in the unit because they directly supervise Soldiers and lead crews, squads, sections, and teams.

a. Trainers can use the MOS Training Plan to determine the critical tasks each Soldier is responsible for. They should tell each Soldier which tasks he/she must be able to perform. Trainers should evaluate task performance to determine which tasks each Soldier can or cannot perform to standard. Soldiers who cannot perform a task to standard need further training. This STP helps the trainer do what trainers get paid to do train. Developing effective training is explained in detail in FM 7-0 and FM 7-1.

b. Every task summary in this STP includes performance measures, which trainers may use year-round to determine if Soldiers can perform critical tasks to the specified standards. The performance measures identify what the trainer needs to observe to score a Soldier's performance. A blank space is provided for the trainer to check either the GO or NO-GO column for each performance measure. Some tasks require the trainer to watch the Soldier perform them (evaluate the process). Other tasks call for the trainer to focus on the results of the Soldier's performance (evaluate the product). Comments should not be written on the task summary.

c. Trainers can monitor the progress of their Soldiers by recording task GO/NO-GO results. Trainers may use DA Form 5164-R (Hands-On Evaluation) to record the performance measures a Soldier passed or failed. The form, which may be locally reproduced, applies to all tasks in this STP. Trainers may have DA Form 5164-R overprinted with information unique to their training requirements before reproducing it. See Appendix A for a sample DA Form 5164-R with instructions.

d. Trainers may use DA Form 5165-R (Field Expedient Squad Book) to record hands-on GO/NO-GO results for a group of Soldiers (for example, a crew, section, or squad) having the same MOS and SL. This form supports conduct of commander's evaluations, and can be used to record training results gathered in the field during slack time for all MOSs and SLs. Use of this form is optional. See Appendix B for a sample DA Form 5165-R with instructions. Trainers should work with each Soldier until tasks can be performed to specific task summary standards.

1-7. Training Support. References have been identified for each task to assist in planning and conducting training. A consolidated list of references identified by type, publication number, and title and a comprehensive glossary of acronyms, abbreviations, and definitions are included in this STP.

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CHAPTER 2

Trainer's Guide

2-1. **General.** The MOS Training Plan identifies the essential components of a unit training plan for individual training. Units have different training needs and requirements based on differences in environment, location, equipment, dispersion, and similar factors. Therefore, the MOS Training Plan should be used as a guide for conducting unit training and not a rigid standard. The MOS Training Plan consists of two parts. Each part is designed to assist the commander in preparing a unit training plan which satisfies integration, cross training, training up, and sustainment training requirements for Soldiers in this MOS.

a. Part One of the MOS Training Plan shows the relationship of an MOS skill level between duty position and critical tasks. These critical tasks are grouped by task commonality into subject areas.

b. Section I list the subject area numbers and titles used throughout the MOS Training Plan. These subject areas are used to define the training requirements for each duty position within an MOS.

c. Section II identifies the total training requirement for each duty position within an MOS and provides a recommendation for cross training and train-up/merger training.

- **Duty Position Column.** This column lists the duty positions of the MOS, by skill level, which have different training requirements.
- **Subject Area Column.** This column lists, by numerical key (see Section I), the subject areas a Soldier must be proficient in to perform in that duty position.
- **Cross-Train Column.** This column lists the recommended duty position for which Soldiers should be cross-trained.
- **Train-Up/Merger Column.** This column lists the corresponding duty position for the next higher skill level or military occupational specialty code (MOSC) the Soldier will merge into on promotion.

d. Part Two lists, by general subject areas, the critical tasks to be trained in an MOS and the type of training required (resident, integration, or sustainment).

- **Subject Area Column.** This column lists the subject area number and title in the same order as Section I, Part One of the MOS Training Plan.
- **Task Number Column.** This column lists the task numbers for all tasks included in the subject area.
- **Title Column.** This column lists the task title for each task in the subject area.
- **Training Location Column.** This column identifies the training location where the task is first trained to Soldier training publications standards. If the task is first trained to standard in the unit, the word "Unit" will be in this column. If the task is first trained to standard in the training base, it will identify, by brevity code (AIT, ANCOC, BNCOC, and UNIT), the resident course where the task was taught. Figure 2-1 contains a list of training locations and their corresponding brevity codes.

AIT	Advanced Individual Training
ANCOC	Advanced Noncommissioned Officer Course
BNCOC	Basic Noncommissioned Officer Course
UNIT	Trained in the Unit

Figure 2-1. Training Locations

- **Sustainment Training Frequency Column.** This column indicates the recommended frequency at which the tasks should be trained to ensure Soldiers maintain task proficiency. Figure 2-2 identifies the frequency codes used in this column.

AN	Annually
BA	Biannually
BM	Bimonthly
MO	Monthly
QTR	Quarterly
SA	Semiannually

Figure 2-2. Sustainment Training Frequency Codes

- **Sustainment Training Skill Level Column.** This column lists the skill levels of the MOS for which Soldiers must receive sustainment training to ensure they maintain proficiency to Soldier's manual standards.

2-2. Subject Area Codes.

SKILL LEVEL 1

- 3 Motor Vehicle Operator Maintenance
- 4 Motor Vehicle Operations
- 5 Transportation of Cargo
- 6 Adverse Terrain/Weather Operations
- 7 Motor Transport Supervision
- 8 Convoy Execution/Defense
- 11 Convoy Planning and Operation
- 14 Hazardous Cargo Transportation
- 15 HEMTT-LHS/PLS Operations

SKILL LEVEL 2

- 4 Motor Vehicle Operations
- 7 Motor Transport Supervision
- 8 Convoy Execution/Defense
- 9 Heavy Equipment Transport (HET) Operations

SKILL LEVEL 3

- 1 Accident Forms and Reporting
- 3 Motor Vehicle Operator Maintenance
- 4 Motor Vehicle Operations
- 7 Motor Transport Supervision
- 8 Convoy Execution/Defense
- 10 Motor Pool Management
- 11 Convoy Planning and Operation
- 14 Hazardous Cargo Transportation

SKILL LEVEL 4

- 10 Motor Pool Management
- 11 Convoy Planning and Operation
- 12 Motor Transport Management
- 13 Logistics Automated Systems

SKILL LEVEL 9

- 8 Convoy Execution/Defense

2-3. Duty Position Training Requirements.

88M CAREER FIELD DUTY POSITIONS				
SKILL LEVEL	DUTY POSITION	SUBJECT AREAS	CROSS-TRAIN	TRAIN-UP/MERGER
1 and 2	Vehicle Drive	1 and 3 through 7	Vehicle Driver	Squad Leader/ Section Sergeant
	HET Vehicle Driver	1, 3 through 8, and 11	Senior Vehicle Driver	Squad Leader/ Section Sergeant
	Heavy Vehicle Driver (vehicles of more than 5-ton cargo capacity includes all truck tractors with or without trailer)	1 and 3 through 8	Senior Vehicle Driver	Squad Leader/ Section Sergeant
	Chauffeur (Battalion or Squadron Command Section)	1 and 3 through 8	Dispatcher	Chauffeur (Colonel or Brigadier General)
	Chauffeur (Driver for Colonel or Brigadier General)	1 and 3 through 8		Dispatcher Chauffeur (Major General or Lieutenant General)
	Courier	1 and 3 through 8	Vehicle Driver	Dispatcher
	Assistant Heavy Vehicle Driver	1, 3 through 8, and 11	Chauffeur	Heavy Vehicle Driver
	Senior Vehicle Driver	1 and 3 through 8	Heavy Vehicle Driver	Squad Leader/ Section Sergeant
	Dispatcher	2	Chauffeur	Driver

SKILL LEVEL	DUTY POSITION	SUBJECT AREAS	CROSS-TRAIN	TRAIN-UP/MERGER
3	HET Vehicle Driver	1, 3 through 7, and 11	Squad Leader/ Section Sergeant	Platoon Sergeant/Truckmaster
	Chauffeur (Driver for Major General and Lieutenant General)	1 and 3 through 9	Squad Leader/ Section Sergeant	Platoon Sergeant/Truckmaster Chauffeur (General or General of the Army)
	Squad Leader/ Section Sergeant	8, 9, and 10	Heavy Vehicle Driver	Platoon Sergeant/Truckmaster
	Driver Test Sergeant	1, 3 through 7, 9, and 11	Squad Leader/ Section Sergeant	Platoon Sergeant/Truckmaster
	Truckmaster (USAREC Recruiting Battalion)	9	Heavy Vehicle Driver	Platoon Sergeant/Truckmaster
4	Chauffeur (Driver of General or General of the Army)	1 and 3 through 7	Truckmaster/ Operations Sergeant	Senior Transportation Supervisor
	Truckmaster/ Operations Sergeant	9, 12, 13, and 14	Platoon Sergeant	Senior Transportation Supervisor
	Detachment Sergeant	9, 10, 11, 13, and 14	Truckmaster/ Operations Sergeant	Senior Transportation Supervisor
	Platoon Sergeant	9, 10, 11, 13, and 14	Truckmaster/ Operations Sergeant	Senior Transportation Supervisor
	Fleet Management NCO	9, 10, 11, 13, and 14	Truckmaster/ Operations Sergeant	Senior Transportation Supervisor
	Senior Courier	1 and 3 through 7	Truckmaster/ Operations Sergeant	Senior Transportation Supervisor

2-4. Critical Tasks List.**MOS TRAINING PLAN
88M14****CRITICAL TASKS**

Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
Skill Level 1				
<i>Subject Area 1. Accident Forms and Reporting</i>				
551-88M-1388	Complete DD Form 518 and SF Form 91	AIT	BM	1
<i>Subject Area 3. Motor Vehicle Operator Maintenance</i>				
551-88M-1352	Perform Preventive Maintenance Checks	AIT	AN	1
551-88M-1662	Change a Tire on a Wheeled Vehicle and Trailer	UNIT	SA	1
<i>Subject Area 4. Motor Vehicle Operations</i>				
551-88M-1314	Perform Coupling Operations	AIT	SA	1
551-88M-1364	Operate Vehicle With Standard or Automatic/Semiautomatic Transmission	AIT	QTR	1-4
551-88M-1367	Back Vehicle With Semitrailer	AIT	QTR	1-3
551-88M-1384	Perform as Wheeled Vehicle Ground Guide Day or Night	AIT	BM	1
551-88M-1500	Operate PLS/HEMTT-LHS Truck	AIT	BM	1-2
551-88M-1600	Operate the Movement Tracking System	AIT	AN	1-2
551-88M-1660	Perform Coupling Operations With a Pintle-Connected Trailer	AIT	QTR	1-2
551-88M-1663	Operate Vehicle-Mounted Crane	UNIT	QTR	1-2
<i>Subject Area 5. Transportation of Cargo</i>				
551-88M-1380	Transport General Cargo in Trailer/Semitrailer	AIT	MO	1-2
551-88M-1382	Perform Payload Vehicle Loading/Unloading Operations With a Semitrailer	UNIT	SA	1-2
551-88M-1411	Perform Tiedown Procedures	AIT	SA	1-2
551-88M-1656	Conduct Refueling Operations Using Tactical Refueling Vehicles	UNIT	AN	1-2
<i>Subject Area 6. Adverse Terrain/Weather Operations</i>				
551-88M-1360	Operate Cargo Vehicle on Secondary Roads/Trails/Cross-Country	AIT	QTR	1-2
551-88M-1361	Operate Vehicle Under Adverse Weather Conditions	AIT	BM	1-2
<i>Subject Area 7. Motor Transport Supervision</i>				
551-88M-1363	Operate Vehicle With or Without Trailer/Semitrailer Under Blackout Conditions	UNIT	QTR	1-3
551-88M-1368	Operate Vehicle With Semitrailer on Secondary Roads/Trails/Cross-Country	AIT	BM	1-2
551-88M-1650	Operate Vehicle Using Night Vision Devices	AIT	QTR	1-3
551-88M-1661	Perform Hasty/Self-Recovery of a Wheeled Vehicle	UNIT	SA	1-3
551-88M-1664	Operate Vehicle in a Contaminated Area	UNIT	QTR	1-3

Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
Subject Area 8. Convoy Execution/Defense				
551-88M-1359	Operate a Vehicle in a Convoy	AIT	MO	1-4
551-88M-1410	Read Strip Maps	AIT	SA	1-2
551-88M-1655	Engage Stationary Targets With Vehicle-Mounted, Crew Served Weapon	AIT	SA	1-3
551-88M-2348	Perform Duties as Serial/March Unit Commander	UNIT	QTR	2-3
Subject Area 11. Convoy Planning and Operation				
551-88M-1658	Prepare Vehicle for Convoy Operations	UNIT	MO	1-3
Subject Area 14. Hazardous Cargo Transportation				
551-88M-1659	Transport Hazardous/Sensitive Cargo	UNIT	QTR	1-3
551-88M-2420	Supervise Transportation of Hazardous/Sensitive Cargo	UNIT	QTR	2-3
Subject Area 15. HEMTT-LHS/PLS Operations				
551-88M-1501	Perform Load/Unload Operations in Automatic Mode	AIT	MO	1-2
551-88M-1503	Transfer Flatrack Onto/From Palletized Load System (PLS) Trailer Using the Load Handling System (LHS)	AIT	MO	1-2
551-88M-1504	Conduct Loading/Unloading Operations in Manual Mode	AIT	MO	1-2
551-88M-1505	Conduct Loading/Unloading Operations Using Container Handling Unit (CHU)	UNIT	MO	1-2
551-88M-1507	Conduct Container Roll-In/Roll-Out Platform (CROP) Load/Unload Operations	UNIT	MO	1-2
Skill Level 2				
Subject Area 4. Motor Vehicle Operations				
551-88M-2371	Perform Dispatcher Duties	UNIT	SA	2
Subject Area 7. Motor Transport Supervision				
551-88M-2374	Supervise Loading/Unloading a Tracked/Wheeled Vehicle Onto/From Semitrailer	UNIT	SA	2-3
Subject Area 8. Convoy Execution/Defense				
551-88M-2408	Implement Defensive Procedures When Under Attack/Ambush in a Truck Convoy	UNIT	SA	2-3
Subject Area 9. Heavy Equipment Transport (HET) Operations				
551-88M-2300	Operate the M1070/M1000 Semitrailer Combination With Disabled Bogie	UNIT	SA	2-3
551-88M-2301	Operate the Gas Particulate Filter Unit (GPFU) on the M1070 Tractor	UNIT	SA	2-3
551-88M-2302	Operate the APU on the M1000 Semitrailer	UNIT	SA	2-3
551-88M-2303	Adjust the Gooseneck on the M1000 Semitrailer	UNIT	SA	2-3
551-88M-2304	Adjust the Platform Height on the M1000 Semitrailer	UNIT	SA	2-3
551-88M-2305	Operate the Loading Ramps on the M1000 Semitrailer	UNIT	SA	2-3
551-88M-2306	Manually Steer the M1000 Semitrailer	UNIT	SA	2-3

Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
551-88M-2375	Drive a Heavy Equipment Transporter (HET) on Improved Roads	UNIT	SA	2-3
551-88M-2376	Load/Unload a Tracked/Wheeled Vehicle Onto a Heavy Equipment Transporter (HET)	UNIT	SA	2-3
Skill Level 3				
Subject Area 1. Accident Forms and Reporting				
551-88M-3353	Review SF Form 91, Operator's Report of Motor Vehicle Accident	BNCOC	AN	3
Subject Area 3. Motor Vehicle Operator Maintenance				
551-88M-3334	Supervise Preventive Maintenance Checks and Services	BNCOC	AN	3-4
Subject Area 4. Motor Vehicle Operations				
551-88M-3340	Supervise Operation of Vehicle-Mounted Crane	UNIT	QTR	2-3
551-88M-3600	Operate the Movement Tracking System Control Station	BNCOC	QTR	3-4
Subject Area 7. Motor Transport Supervision				
551-88M-3338	Supervise Personnel Performing Vehicle Hasty/Self-Vehicle Recovery	BNCOC	SA	3-4
551-88M-3341	Supervise Personnel Loading/Unloading Equipment/Cargo Onto/From Vehicle and Semitrailer	UNIT	QTR	3-4
551-88M-3345	Supervise Loading of Able/Disabled Tracked/Wheeled Vehicles Onto a Heavy Equipment Transporter (HET)	UNIT	SA	3-4
551-88M-3346	Supervise Unloading of Able/Disabled Tracked/Wheeled Vehicles Off a Heavy Equipment Transporter (HET)	UNIT	SA	3-4
Subject Area 8. Convoy Execution/Defense				
551-88M-3355	Conduct Mounted Land Navigation	BNCOC	SA	3-4
551-88M-3601	Perform Duties as Convoy Commander	BNCOC	QTR	3-4
Subject Area 10. Motor Pool Management				
551-88M-3333	Supervise Motor Pool Operations	BNCOC	AN	3-4
551-88M-3335	Supervise Driver Training Program	BNCOC	AN	3-4
Subject Area 11. Convoy Planning and Operation				
551-88M-3602	Conduct Reconnaissance of Convoy Route	BNCOC	QTR	3-4
551-88M-3603	Prepare Platoon Operations Order (OPORD)	BNCOC	QTR	3-4
551-88M-3604	Prepare Map Overlay	BNCOC	SA	3-4
Subject Area 14. Hazardous Cargo Transportation				
551-88M-3700	Manage Transportation of Hazardous/Sensitive Cargo	UNIT	SA	3-4

Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
Skill Level 4				
<i>Subject Area 10. Motor Pool Management</i>				
551-88M-4322	Manage Preventive Maintenance Checks and Services	ANCOC	AN	4
551-88M-4323	Manage Motor Pool Operations	ANCOC	AN	4
551-88M-4402	Manage Tactical Automation Systems	ANCOC	AN	4
551-88M-4406	Manage Logistical Support for a Unit	ANCOC	AN	4
<i>Subject Area 11. Convoy Planning and Operation</i>				
551-88M-4333	Coordinate External Support Requirements for a Truck Battalion OPLAN/OPORD	ANCOC	SA	4
<i>Subject Area 12. Motor Transport Management</i>				
551-88M-4401	Manage Convoy Manifest	UNIT	AN	4
551-88M-4320	Manage Driver Training Program	ANCOC	AN	4
551-88M-4325	Establish Motor Transport Safety Program	ANCOC	AN	4
551-88M-4334	Conduct Motor Transport Company Operations	ANCOC	AN	4
551-88M-4404	Perform Logistics Planning Using MDMP	ANCOC	AN	4
551-88M-4405	Manage Battlefield Damage Assessment and Repair (BDAR)	ANCOC	AN	4
<i>Subject Area 13. Logistics Automated Systems</i>				
551-88M-4403	Use Logistics Automation Systems to Manage Unit Equipment	ANCOC	AN	4

CHAPTER 3

MOS/Skill Level Tasks

Skill Level 1

Subject Area 1: Accident Forms and Reporting

Complete DD Form 518 and SF Form 91

551-88M-1388

Conditions: Given an accident situation sheet, DD Form 518 (Accident-Identification Card), SF Form 91 (Motor Vehicle Accident Report), and a pen or pencil.

Standards: Successfully complete the operator entries on DD Form 518 and SF Form 91 by following the situation provided.

Performance Steps

1. Enter the following information on DD Form 518.
 - a. Date of accident.
 - b. Make and type of vehicle.
 - c. Registration number of vehicle.
 - d. Your name.
 - e. Your social security number (SSN) (optional).
 - f. Your rank.
 - g. Name of organization to which assigned.
2. Give DD Form 518 to any other person involved in the accident.
3. Place a DD Form 518 in or on the involved parked vehicle, notify local authorities, and stand by the scene of the accident until the authorities arrive if the accident involves a parked car and the person concerned is not present.
4. Enter the following information on SF Form 91.
 - a. Name of department or agency.
 - b. Name and location of organization to which assigned.
 - c. Operator identification in section 1.
 - d. Accident time and location in section 2.
 - e. Federal vehicle number in section 3.
 - f. Other vehicle involved in section 4.
 - g. Other property damage in section 5.
 - h. Person injured in section 6.
 - i. Occupants in your vehicle in section 7.
 - j. Occupants in other vehicle in section 8.
 - k. Witnesses and police in section 9.
 - l. Accident conditions in section 10.
 - m. Events after accident in section 11.
 - n. Other vehicle or property involved in section 12.
 - o. Diagram of what happened in section 13.
 - p. Operator's statement of accident and use of safety equipment in section 14.

Performance Steps

- q. Operator's signature.
- r. Date signed.

- 5. Turn in report to the commanding officer or noncommissioned officer in charge (NCOIC).

Evaluation Preparation: Setup: Give the Soldier a DD Form 518, SF Form 91, identifying information about the accident, and a pen or pencil.

Brief Soldier: Tell the Soldier to complete all sections of the DD Form 518 and SF Form 91 legibly and accurately using the information given. Tell the Soldier to sign and date the SF Form 91 and turn it in to the commanding officer or NCOIC. Tell the Soldier that providing their SSN is optional.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Entered information on DD Form 518.	_____	_____
2. Gave DD Form 518 to any person involved in the accident.	_____	_____
3. Placed DD Form 518 in or on the involved parked vehicle, notified local authorities, and stood by the scene of the accident until the authorities arrived if the accident involved a parked car and the person concerned was not present.	_____	_____
4. Entered information on SF Form 91.	_____	_____
5. Turned in report to the commanding officer or noncommissioned officer in charge (NCOIC).	_____	_____

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.

References**Required**

DD FORM 518
SF FORM 91

Related

FM 21-305

Subject Area 3: Motor Vehicle Operator Maintenance

Perform Preventive Maintenance Checks**551-88M-1352**

Conditions: Provide a chocked tactical wheeled vehicle, trailer, or other equipment requiring preventive maintenance checks and services (PMCS), basic issue items (BII), FM 21-305, DA Form 5988-E (Equipment Inspection Maintenance Worksheet), rags and lubricants as necessary, level ground to work, replacement parts as available, -10, -12, and -14 series technical manual (TM) for the vehicle, trailer or equipment, DA Form 5987-E (Motor Equipment Dispatch) as applicable, hearing protection as necessary, and guidance on disposition of completed maintenance worksheets.

Special Conditions: Supervisory personnel are present to perform those actions required for proper disposition of vehicle status and vehicle dispatching for mission according to unit standing operating procedure (SOP).

Installed components: The operator is responsible for performing maintenance of all installed components of the vehicle to include communications equipment, weapons mounts, and the like. In such cases, the successful completion of this task will include the inspection of these items in accordance with the appropriate TM.

Standards: Read and interpret the applicable TM. All watches, rings, and other jewelry are removed for safety reasons. Inspect the vehicle, trailer, or equipment according to the PMCS tables of the appropriate TM while wearing hearing protection as necessary. Adhere to all WARNINGS, CAUTIONS, and notes concerning the items you are checking. Distinguish between before, during, and after operation maintenance checks. Regarding faults detected, correct all faults, when possible, within your level of maintenance. Record all uncorrectable faults on DA Form 5988-E completely, accurately, and legibly. Replace available parts within operator-level of authority. Troubleshoot faults as necessary according to the TM. Once all maintenance checks are completed, turn in the form to unit maintenance or your direct supervisor according to the unit standing operating procedure (SOP). When vehicle or equipment requires dispatch, make all operator entries on DA Form 5987-E legibly and accurately. All PMCS are to be completed without injury to personnel or damage to equipment.

Performance Steps

1. Prepare for inspection.
 - a. Gather the following items needed for the inspection.
 - (1) Replacement parts (indicated by DA Form 5988-E, under "parts requested").
 - (2) Oil and lubricants in accordance with TM as needed.
 - (3) BII, rags, and other tools as required (authorized for operator level maintenance only).
 - (4) DA Form 5988-E (check for proper entries as noted above).
 - (5) Flashlight, work gloves, and hearing protection as needed.
 - (6) Applicable vehicle TM (-10, -12, or -14 series).

WARNING

**REMOVE ALL JEWELRY PRIOR TO START OF INSPECTION TO
AVOID INJURY FROM SNAGGING OR INADVERTENT ELECTRICAL
GROUNDING.**

Performance Steps

2. Perform before-operation inspection as listed in appropriate vehicle operator's manual (-10 series TM) if deficiencies are noted on DA Form 5988-E.

NOTES:

1. Cleanliness. Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Use dry cleaning solvent on metal surfaces where directed.
2. Bolts, Nuts, and Screws. Check bolts, nuts, and screws for obvious looseness and missing, bent, or broken conditions. Look for chipped paint and bare metal or rust around bolt heads. If any part seems to be loose, tighten it or notify Unit Maintenance.
3. Welds. Look for loose or chipped paint, rust, or gaps where parts are welded together. If a bad weld is found, notify Unit Maintenance.
4. Electrical Wires and Connections. Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors and make sure wires are in good shape. If a bad wire or connector is found, notify Unit Maintenance.
5. Hydraulic Lines and Fittings. Look for wear, damage, and leaks. Make sure clamps and fittings are tight. Wet spots show leaks. A stain around a fitting or connector can mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, notify Unit Maintenance.
6. Damage. Damage is defined as any condition that affects safety or would make the vehicle unserviceable for mission requirements.
 - a. Isolate the malfunction by applying step-by-step troubleshooting procedures.
 - b. Determine classification of any fluid seepage/leakage by the following criteria.
 - (1) Class I - Seepage of fluid (indicated by wetness or discoloration) not great enough to form drops.
 - (2) Class II - Leakage of fluid great enough to form drops but not enough to cause drops to drip from item being inspected.
 - (3) Class III - Leakage of fluid great enough to cause drops to drip from item being checked.
 - c. Correct all deficiencies (faults) within the operator's level of maintenance.
 - d. Record all vehicle deficiencies correctly by replacing parts under corrective action of DA Form 5988-E.
 - e. Record all uncorrectable deficiencies under fault description of DA Form 5988-E.
 - f. When a deficiency or shortcoming is found using DA Form 5988-E, the operator or supervisor signs and enters the rank.
3. After performing before-operation checks and vehicle has no NMC faults, the vehicle may be dispatched for mission.

NOTE: Make operator entries on DA Form 5987-E.

- a. Operator (and supervisor) reviews SERVICE DUE DATA on DA Form 5987-E and takes appropriate action.
- b. Operator (and dispatcher) reviews entries on DA Form 5987-E for accuracy. Dispatcher signs the DA Form 5987-E.
- c. Operator signs DA Form 5987-E in the operator's signature block.
4. Perform during-operation inspection as listed in the appropriate vehicle operator's TM (-10 series TM).
 - a. If no deficiencies are noted, make no entries.
 - b. If deficiencies are noted, follow step 2 above.

Performance Steps

5. Perform after operation-inspection as listed in the appropriate vehicle operator's TM (-10 series TM).
 - a. If no deficiencies are noted, put initials the initials column of DA Form 5988-E.
 - b. If deficiencies are noted follow steps 2 above.
6. Turn in DA Form 5988-E to the maintenance supervisor.
7. Retain DA Form 5988-E in equipment records folder if no faults are recorded.
8. Perform preventive maintenance checks on installed components (as applicable, in accordance with the appropriate TM).

Evaluation Preparation: Setup: Inspect the vehicle to identify the deficiencies that would effect the operational status of the vehicle. The operator must record uncorrectable faults on DA Form 5988-E. Ensure that faults are within the operator's level of maintenance, which must be corrected.

Brief Soldier: Tell the Soldier to perform before-, during-, and after-operation maintenance checks and fill out DA Form 5988-E completely, correctly, and legibly as required. Correct all deficiencies within operator level of maintenance and record all other deficiencies that cannot be immediately corrected by adjustment or replacement of parts.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Prepared for inspection.	—	—
2. Performed before-operation inspection as listed in appropriate vehicle operator's manual (-10 series TM) if deficiencies are noted on DA Form 5988-E.	—	—
3. Completed operator entries on DA Form 5987-E for vehicle dispatch.	—	—
4. Performed during-operation inspection as listed in the appropriate vehicle operator's TM (-10 series TM).	—	—
5. Performed after operation-inspection as listed in the appropriate vehicle operator's TM (-10 series TM).	—	—
6. Turned in DA Form 5988-E to the maintenance supervisor if faults were recorded during inspection.	—	—
7. Retained DA Form 5988-E in equipment records folder if no faults were recorded.	—	—
8. Performed preventive maintenance checks on installed components (as applicable).	—	—

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.

References

Required

DA FORM 5987-E
DA FORM 5988-E
FM 21-305

Related

DA PAM 750-8
TM 9-2320-366-10-1

Change a Tire on a Wheeled Vehicle and Trailer**551-88M-1662**

Conditions: Given a tactical wheeled vehicle (2.5-ton or larger) and associated pintle-connected trailer or semitrailer with a tire to replace, applicable basic issue items (BII), tools, and assistance as needed.

Special Conditions: This task requires two personnel for vehicles 2.5-ton and larger.

Standards: Replace a tire/wheel assembly on a 2.5-ton (or larger) tactical wheeled vehicle and a pintle-connected trailer or semitrailer without injury to personnel or damage to equipment.

Performance Steps

1. Make preparations for tire/wheel assembly replacement.
 - a. Position vehicle or trailer on as level ground as possible.
 - b. Chock wheels opposite from flat to prevent inadvertent movement.
 - c. Remove spare tire from stowage location using vehicle-mounted spare tire davit and assistance from another crewmember.
 - d. Gather all necessary tools to complete the tire-change.
 - e. Ensure spare tire is inflated to correct pressure.
 - f. If vehicle is equipped with Central Tire Inflation System (CTIS), ensure all components are removed and replaced according to the vehicle technical manual (TM). Steps may vary between front and rear tires.

NOTE: DO NOT use the CTIS to attempt to maintain air pressure in a flat tire.

2. Remove defective/flat tire/wheel assembly from vehicle or trailer.
 - a. If CTIS equipped, remove system lines and fittings as directed in the applicable TM.
 - b. Using a lifting device, slightly raise vehicle or trailer until weight is off the tire but tire still contacts the ground.

NOTE: Depending on consistency of ground surface, it may be necessary to support lifting jack with a solid object such as thick boarding or plating that can sustain the partial weight of the vehicle or trailer/semitrailer.

- c. Using lug wrench, slightly loosen lug nuts in a crisscross pattern.
- d. Raise vehicle or trailer high enough to remove and replace wheel/tire assembly. Use hydraulic jack (BII) or other suitable lifting device. If using hydraulic jack be sure base of jack is supported by thick wood or other materials so that jack will not sink into the ground under vehicle weight.
- e. Block/support vehicle before handling tire using jack stands or any suitable item that will support vehicle weight.
- f. Finish loosening lug nuts and remove wheel/tire assembly.
- g. Lay disabled wheel/tire assembly out of the way in such a manner that will prevent it from falling and injuring personnel or damaging other equipment.
- h. Adhere to all WARNING and CAUTION statements in the TM regarding this procedure.

Performance Steps

3. Replace tire/wheel assembly.
 - a. With assistance, lift spare tire/wheel assembly into position onto hub.
 - b. Secure all lug nuts hand tight.

WARNING

DO NOT ALLOW VEHICLE WEIGHT TO REST ON LUG STUDS WITHOUT ENSURING LUG NUTS ARE FULLY TIGHTENED. FAILURE TO COMPLY MAY SNAP ONE OR MORE LUG STUDS AND CAUSE VEHICLE TO COLLAPSE WHICH CAN CAUSE INJURY OR DEATH TO PERSONEL AND/OR DAMAGING WHEEL HUB OR WHEEL.

- c. Fully tighten lug nuts in a crisscross pattern. If necessary, lower vehicle until tire touches the ground to prevent tire from turning.
 - d. Lower the vehicle or trailer to the ground.
 - e. Recheck tightness of all lug nuts.
 - f. If CTIS equipped, ensure all lines and fittings are re-connected. Exercise the CTIS to ensure there are no leaks.
 - g. If CTIS equipped, notify organizational maintenance as soon as possible to ensure all CTIS lines and fittings are reinstalled properly and tested.
 - h. Adhere to all WARNING and CAUTION statements in the TM regarding this procedure.
4. Stow disabled tire/wheel assembly.
 - a. Using assistance, move tire/wheel into position to be lifted.
 - b. Attach davit/lifting device to the rim of the wheel and lift into position on the vehicle or trailer.
 - c. If lifting device is not available as in the case with some trailers, ensure assistance is obtained before attempting to lift tire/wheel into stowage location.
 - d. Secure with mounting brackets/hardware.
 - e. Adhere to all WARNING and CAUTION statements in the TM regarding this procedure.
5. Recover from tire/wheel change procedure.
 - a. Secured all tools and materials used to perform tire/wheel change.
 - b. Annotate of DA Form 2404 (Equipment Inspection and Maintenance Worksheet)/DA Form 5988-E (Equipment Inspection Maintenance Worksheet) that spare tire/wheel is unserviceable and to be repaired as soon as possible to regain full "mission capable" status.

NOTE: Some CTIS equipped vehicles are considered "Not Fully Mission Capable" if one or more tires are missing or unserviceable. Ensure chain of command is notified and tire is repaired or replaced to regain "Full Mission Capability."

- c. As soon as possible, take vehicle to organizational maintenance to torque hub lug nuts and have the CTIS checked (if applicable).

Evaluation Preparation: Setup: Provide for the Soldier a vehicle and trailer in need of a tire replacement. Provide all necessary tools and assistance needed. This will include BII for both vehicle and trailer. If the vehicle used is 2.5 tons or larger, assistance will be needed.

Brief Soldier: You are to change a tire on a tactical wheeled vehicle and trailer. You have the necessary tools and assistance from another Soldier to perform this operation. Your performance must result in a vehicle that is safe to operate and operational. All steps will be performed without injury to personnel and adherence to all WARNING and CAUTION statements in the TM.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Made preparations for tire/wheel assembly replacement.	_____	_____
a. Position vehicle or trailer on as level ground as possible.		
b. Chock wheels opposite from flat to prevent inadvertent movement.		
c. Remove spare tire from stowage location.		
d. Gather all necessary tools to complete the tire-change.		
e. Ensure spare tire is inflated to correct pressure.		
f. If vehicle is equipped with CTIS system, ensure all components are removed and replaced according to the vehicle TM. Steps may vary between front and rear tires.		
g. Adhered to all WARNING and CAUTION statements in the TM.		
2. Removed tire/wheel assembly from vehicle or trailer.	_____	_____
a. Using a lifting device, slightly raise vehicle or trailer till weight is off the tire but tire still contacts the ground.		
b. Using lug wrench, slightly loosened lug nuts in a crisscross pattern.		
c. Raised vehicle or trailer high enough to remove and replace wheel/tire assembly. Used hydraulic jack (BII) or other suitable lifting device. If hydraulic jack was used, ensured base of jack was supported by thick wood or other materials so that jack would not sink into the ground under vehicle weight.		
d. Blocked/supported vehicle before handling tire using jack stands or any suitable item that will support vehicle weight.		
e. Finished loosening lug nuts and removed wheel/tire assembly.		
f. Finished loosening lug nuts and removed wheel/tire assembly.		
g. Lay disabled wheel/tire assembly out of the way in such a manner that will prevent it from falling and injuring personnel or damaging other equipment.		
h. Adhere to all WARNING and CAUTION statements in the TM regarding this procedure.		
3. Replaced tire/wheel assembly.	_____	_____
a. With assistance, lifted spare tire into position onto hub.		
b. Secured all lug nuts hand tight.		
c. Fully tightened lug nuts in a crisscross pattern. If necessary, lowered vehicle until tire touched the ground to prevent tire from turning.		
d. Lowered the vehicle or trailer to the ground.		
e. Rechecked tightness of all lug nuts.		
f. If CTIS equipped, ensured all lines and fittings were re-connected. Ensured there were no leaks.		

Performance Measures
GO **NO-GO**

- | | | |
|---|-------|-------|
| <ul style="list-style-type: none"> g. If CTIS equipped, notified organizational maintenance as soon as possible to ensure all CTIS lines and fittings were reinstalled properly and tested. h. Adhere to all WARNING and CAUTION statements in the TM regarding this procedure. | | |
| 4. Stowed disabled tire/wheel assembly. | _____ | _____ |
| a. Using assistance, moved tire/wheel into position to be lifted. | | |
| b. Attached davit/lifting device to the rim of the wheel and lift into position on the vehicle or trailer. | | |
| c. If lifting device is not available as in the case with some trailers, ensured assistance is obtained before attempting to lift tire/wheel into stowage location. | | |
| d. Secured with mounting brackets/hardware. | | |
| e. Adhered to all WARNING and CAUTION statements in the TM regarding this procedure. | | |
| 5. Recovered from tire/wheel change procedure. | _____ | _____ |
| a. Secured all tools and materials used to perform tire/wheel change. | | |
| b. Annotated of DA Form 2404/DA Form 5988-E that spare tire/wheel is unserviceable and to be repaired as soon as possible to regain full "mission capable" status. | | |
| c. As soon as possible, take vehicle to organizational maintenance to torque hub lug nuts and have the CTIS system checked (if applicable). | | |

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.

References
Required

FM 21-305
 TM 9-2320-366-10-1
 TM 9-2320-366-10-2
 TM 9-2330-394-13&P

Related

Subject Area 4: Motor Vehicle Operations

Perform Coupling Operations**551-88M-1314**

Conditions: Given a tractor and semitrailer (uncoupled) with before-operation maintenance performed and all coupling components lubricated as required, an area large enough to accommodate the operation, chock blocks, and hearing protection, ground guides (where available), and work gloves.

Special Conditions: This task is primarily written for the M915A4/M872 Truck Tractor-Semitrailer combination. However, if operating with the M1088 MTV Truck Tractor or the M931/M932 Truck Tractor, follow the steps in the perspective vehicle technical manual (TM) when differences from this task outline occur.

Standards: Couple, then uncouple, a truck tractor to and from a semitrailer without causing injury to personnel or damage to equipment.

Performance Steps

1. Couple semitrailer.

WARNING

**USE GROUND GUIDE WHEN BACKING UP TO SEMITRAILER.
FAILURE TO DO SO MAY RESULT IN INJURY OR DEATH TO
PERSONNEL OR DAMAGE TO EQUIPMENT.**

NOTES:

1. The M915A4 is designed to be used with M871, M872, and M1062 semitrailers only. Other semitrailers may cause equipment damage.
2. Semitrailer must be blocked and semitrailer brakes locked to prevent damage to tractor or semitrailer by uncontrolled sliding of fifth wheel.
3. If towing M872 semitrailer, rear mud flaps must be removed and stowed in brackets provided. Failure to do so will cause equipment damage.
4. Truck tractors have the capability to turn greater than 90 degrees. Care must be taken to avoid hitting semitrailer with tractor when turning more than 90 degrees.
5. Operator must use caution when cresting hills which can cause the truck tractor to have a nose down angle greater than 4 degrees with respect to towed semitrailer. Damage to vehicle or loss of control could occur.

Performance Steps**WARNINGS**

DO NOT USE SEMITRAILER HANDBRAKE AS PRIMARY BRAKE TO KEEP TENSION ON COUPLING SYSTEM. THIS WILL CAUSE UNDUE TENSION ON BRAKES AND COUPLING WHICH COULD RESULT IN INJURY OR DEATH TO PERSONNEL OR DAMAGE TO EQUIPMENT. PREVENT PROBLEMS WITH SLACK IN FIFTH WHEEL BY USING GOOD BRAKING HABITS AND ADJUSTING COUPLING AND BRAKING SYSTEMS PROPERLY.

USE CAUTION WHEN COUPLING SEMITRAILER. BE ALERT FOR PERSONNEL IN AREA. ENSURE THAT HANDS, ARMS, AND BODY ARE CLEAR OF POTENTIAL PINCH POINTS. FAILURE TO FOLLOW THIS WARNING MAY RESULT IN INJURY OR DEATH TO PERSONNEL.

CAUTION

Be careful not to run kingpin up fifth wheel ramps as this can damage kingpin and/or fifth wheel.

NOTES:

1. Truck and semitrailer must be aligned.
2. Use a ground guide if one is available.

CAUTION

Fifth wheel lube plates and trailer kingpin plate must be cleaned and dried prior to coupling. Failure to follow this caution could damage fifth wheel and/or trailer.

Performance Steps

- a. Position the truck tractor.

CAUTION

Ensure that centerline of tractor and centerline of semitrailer are aligned during coupling operation.

- (1) Start truck tractor (see TM).
- (2) Sound horn (if tactically permissible).
- (3) Using ground guide if available, align centerline of tractor with centerline of semitrailer.
- (4) Ensure that fifth wheel ramps are level with, or slightly below, the angle of the pickup ramps.
- (5) Ensure that the coupling jaws line up with the semitrailer kingpin.
- (6) Emplace chock blocks under semitrailer.
 - (a) Level Ground. Place one chock block in front of the wheel and behind the opposing wheel on the same axle.
 - (b) Uphill. Place both chock blocks behind the rear axle of the semitrailer.
 - (c) Downhill. Place chock blocks in front of forward-most axle on semitrailer.
- (7) Slowly back the tractor under semitrailer kingpin plate. Stop when kingpin plate is touching guide ramps. Semitrailer kingpin should be centered as closely as possible in throat of fifth wheel.
- (8) Ensure that semitrailer is picked up with fifth wheel ramps. If kingpin comes in too high, it will not engage the fifth wheel properly. Adjust semitrailer height as needed.
- (9) Connect air hoses and light cables.
 - (a) Remove dummy couplings from the air connections on the semitrailer.
 - (b) Connect air line hoses from the tractor to the semitrailer.
 - (c) Attach the emergency hose on the tractor (color code red) to the service coupling on the semitrailer.
 - (d) Push semitrailer air supply control knob IN, open semitrailer supply valve, and set semitrailer control valve hand brake.

CAUTION

Ensure the service air hose from the tractor is connected to the service coupling, the emergency air hose, and to the emergency coupling on the semitrailer.

Performance Steps

WARNING

AIRBRAKE SHUTOFF MUST BE OPEN AT ALL TIMES DURING THE NORMAL OPERATION OF THE TRACTOR AND THE SEMITRAILER. SEMITRAILER BRAKES MUST BE FUNCTIONAL. FAILURE TO DO THIS MAY CAUSE INJURY OR DEATH TO PERSONNEL.

- (10) If semitrailer is Anti-lock Brake System (ABS)-equipped, connect ABS electrical cable.

NOTE: Backing SLOWLY helps to prevent hitting too hard in coupling and damaging kingpin.

- (11) Back slowly until fifth wheel locks firmly to kingpin.
 - (12) Check kingpin connection and fifth wheel slide locks by pulling tractor gently forward against locked semitrailer brakes or blocked wheels. As resistance is felt, select transmission shift selector Reverse (R) pushbutton and gently back tractor to verify fifth wheel slide locks in both directions. When resistance is felt, select transmission shift selector Neutral (N) pushbutton and set parking brake.
 - (13) Verify that lock release handles are in.
 - (14) Check semitrailer lights.
 - (15) Make wedge adjustments to fifth wheel (if appropriate).
 - (a) Place fifth wheel slide control lever in UNLOCK position to release two sliding lock plungers. Ensure that plungers release.
 - (b) Drive tractor slowly backward or forward to position fifth wheel.
 - (c) After sliding to desired position, engage two sliding lock plungers by placing fifth wheel slide control valve lever in LOCK position.
 - (d) Visually check that two sliding lock plungers are retracted and fully engaged. It may be necessary to leave semitrailer brakes locked and move tractor slightly to engage plunger in rack teeth.
 - (16) Stow wheel chocks.
 - (17) Lift and secure semitrailer landing gear and stow float pads.
2. Uncouple semitrailer.
- a. Remove chock blocks from stowage brackets.
 - b. Chock the semitrailer wheels.
 - (1) When parking uphill, place chock blocks behind the rear wheels on both sides of the semitrailer.
 - (2) When parking downhill, place chock blocks in front of forward-most axle on semitrailer.
 - (3) When parking on level ground, place a chock block firmly in front of a wheel on one side of the axle and firmly behind one wheel on the other side.
 - c. Pull semitrailer air valve OUT.
 - d. Apply parking brake.
 - e. Remove float pads from stowage brackets and place under landing support legs.
 - f. Lower the landing support legs.
 - g. Disconnect the intervehicular cable from the semitrailer light receptacle and secure it to the tractor.

Performance Steps

- h. Close air supply valves to the air brake lines on the tractor.
- i. Disconnect the air brake lines from the air line couplings on the semitrailer and secure them to the tractor hose stowage brackets.
- j. If connected, disconnect and stow ABS electrical cable.
- k. Fit the dummy couplings on the semitrailer air line couplings.
- l. Pull the plunger handle forward to open the fifth wheel coupling jaws and release wheel disengages from the tractor.
- m. Move the tractor forward until fifth wheel disengages from the semitrailer.
- n. Stop and set parking brake.

Evaluation Preparation: Setup: Give the Soldier a M915A4 truck tractor and M872 flatbed semitrailer (uncoupled), an area large enough to safely couple the semitrailer.

Brief Soldier: Tell the Soldier to couple the semitrailer to the tractor without injuring personnel or damaging the tractor, semitrailer, or surrounding area.

Performance Measures**GO** **NO-GO**

- | | | |
|--|-------|-------|
| 1. Coupled semitrailer. | _____ | _____ |
| a. Prepared coupling devices. | | |
| b. Positioned tractor. | | |
| c. Made wedge adjustments (as necessary). | | |
| d. Emplaced chock blocks. | | |
| e. Lined up tractor with semitrailer. | | |
| f. Adjusted height of semitrailer to tractor's fifth wheel height. | | |
| g. Made tractor-to-semi-trailer brake line connections. | | |
| h. Checked security of tractor to semitrailer. | | |
| i. Connected electrical intervehicular cable from tractor to semitrailer. | | |
| j. Checked semitrailer lights. | | |
| k. Prepared semitrailer for movement. | | |
| 2. Uncoupled semitrailer. | _____ | _____ |
| a. Removed chock blocks from stowage brackets. | | |
| b. Chocked semitrailer wheels. | | |
| c. Removed float pads from stowage brackets and placed under landing support legs. | | |
| d. Lowered the landing support legs. | | |
| e. Disconnected intervehicular cable from semitrailer light receptacle and secured to tractor. | | |
| f. Close air supply valves. | | |
| g. Disconnect air brake lines. | | |
| h. Opened fifth wheel coupling jaws. | | |
| i. Moved tractor forward until fifth wheel disengaged from semitrailer. | | |

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.

References**Required**

FM 21-305

TM 9-2320-303-10

TM 9-2330-359-14&P

Related

TM 9-2320-260-10

TM 9-2320-272-10

TM 9-2320-283-10

TM 9-2320-366-10-1

TM 9-2320-366-10-2

TM 9-2330-358-14&P

TM 9-2330-386-14&P

Operate Vehicle With Standard or Automatic/Semiautomatic Transmission**551-88M-1364**

Conditions: Provided a tactical wheeled vehicle with a standard or automatic/semiautomatic transmission, with before-operation maintenance performed, basic issue items (BII), dispatch, -10 series technical manual (TM), accident forms, and guidance on route to operate.

Standards: You have safely operated your vehicle by following all starting and operating procedures in the referenced TM. You have shifted gears (manual transmission), used the proper gear mode or gear range for road conditions, and maintained control of the vehicle during all movement (forward and backward). All driving maneuvers were completed without injury to personnel or damage to vehicle.

Performance Steps

1. Prepare for vehicle operation.
 - a. Adjust the seats (as needed).
 - b. Adjust driving mirrors (as needed).
 - c. Fasten seat belt.
 - d. Ensure the parking brake is applied.
 - e. On vehicles with winch, ensure that power takeoff is disengaged.
 - f. Insert hearing protection prior to starting vehicle.
 - g. Start vehicle engine (refer to applicable vehicle TM for proper starting procedures).
 - h. Observe all instruments and warning lights and buzzers for proper operation.
 - i. Allow engine to warm up and brake system air tank warning buzzer to go off (as applicable).
2. Set the vehicle in motion.
 - a. Turn on lights as required.
 - b. Refer to TM for proper procedures for placing your vehicle into motion.
 - c. Check for approaching traffic.
 - d. Signal to indicate your direction of movement (if tactically permitted).
 - e. Release parking brake.
3. Shift the gears (as applicable). Bring vehicle to desired speed by shifting, as necessary, through the gear pattern (manual transmission) or selecting different gear ranges (automatic transmission).
4. Turn the vehicle.
 - a. Prepare to turn (full turn).
 - (1) Signal a right or left turn (when permitted).
 - (2) Observe responses of other vehicle to your signals.
 - (3) Reduce speed to make the turn safely. Keep in mind terrain and load (if applicable) when determining your speed through the turn.
 - b. Start the turn. Rotate the top of the steering wheel in the direction of turn and adjust as desired.
5. Stop the vehicle (nonemergency).
 - a. Remove foot from accelerator.
 - b. Apply engine retarder if equipped and as needed.
 - c. Apply service brakes as needed to bring vehicle to complete and safe stop.

Performance Steps

6. Back the vehicle.
 - a. With vehicle at a complete stop, set the parking brake.
 - b. Place transmission in Neutral (N).
 - c. Post ground guides if available.
 - d. Check behind vehicle to ensure there are no obstructions or personnel.
 - e. Sound horn (if tactically permitted).
 - f. Place transmission in Reverse (R).
 - g. Release parking brake.
 - h. If ground guide is posted, observe and adhere to signals to move vehicle into position.
 - i. If no ground guide is present, check all views through rear view mirrors and slowly steer the vehicle backward into position. If necessary, repeat steps 6 a through g above to complete the rearward movement.
 - j. Stop the vehicle.
7. Park the vehicle.
 - a. Place the transmission selector lever in Neutral (N).
 - b. Set the parking brake.
 - c. Shutdown the engine (refer to TM).
 - d. Drain air reservoir if vehicle is no longer needed.
 - e. Emplace chocks blocks as needed.

Evaluation Preparation: Setup: Provide the Soldier with a vehicle and a route to follow.

Brief Soldier: Tell the Soldier to drive the vehicle safely using the proper shifting techniques (gear to gear - standard, gear range - automatic/semiautomatic). The Soldier is to operate vehicle from a standing start for level ground, uphill starting, and downhill starting, use proper braking techniques on level ground as well as up or down hill. If vehicle has a standard transmission, Soldier must use the engine compression (clutch out) to assist in slowing vehicle. There must NOT be any free clutching (coasting with the clutch engaged) to slow vehicle. If operating vehicle with automatic/semiautomatic transmissions, the proper gear range must be selected appropriate with the terrain conditions and load on the vehicle.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Prepared for vehicle operation.	_____	_____
2. Set the vehicle in motion.	_____	_____
3. Shifted the gears.	_____	_____
4. Turned the vehicle.	_____	_____
5. Stopped the vehicle (nonemergency).	_____	_____
6. Backed the vehicle.	_____	_____
7. Parked the vehicle.	_____	_____

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.

References

Required

FM 21-305

TM 9-2320-260-10

TM 9-2320-280-10

TM 9-2320-303-10

TM 9-2320-364-10

TM 9-2320-365-10

TM 9-2320-366-10-1

TM 9-2320-366-10-2

Related

Back Vehicle With Semitrailer

551-88M-1367

Conditions: Given a tractor coupled to a semitrailer with before-operation preventive maintenance performed, hearing protection (as needed), and area to maneuver.

Standards: You have safely backed your tractor with semitrailer combination into designated position. You have maintained full control during movement without injury to personnel or damage to surroundings or equipment.

Performance Steps

1. Prepare to operate the vehicle.
 - a. Adjust the rear-view mirrors to obtain a clear view to both sides of the vehicle.
 - b. Adjust driver's seat as needed.
 - c. Fasten seat belt.
 - d. Start the tractor (refer to technical manual [TM] for proper starting procedures).
 - e. Check the vehicle instruments for proper readings (refer to TM).
 - f. Ensure that vehicle air system low air pressure warning buzzer has stopped (as applicable).
2. Set the vehicle in motion.
 - a. Check gauges to make sure the vehicle is ready for operation.
 - b. Place transmission in Reverse (R).
 - c. Release the parking brake.
 - d. Depress the accelerator.
3. Back the semitrailer to the left.
 - a. Turn the tractor's steering wheel to the right until the trailer is headed in the desired direction.
 - b. Turn the tractor's steering wheel to the left to put the tractor in the line of travel as semitrailer.
4. Back the semitrailer to the right.
 - a. Turn the tractor's steering wheel to left until the trailer is headed in the desired direction.
 - b. Turn the tractor's steering wheel to the right to put the tractor in line of travel as semitrailer.
5. Back semitrailer without turning (straight-line).
 - a. Observe and react to visual hand signals of the ground guides (if available).
 - b. Use vehicle mirrors to aid in making steering adjustments.
 - c. Stop at designated point.
6. Park the semitrailer.
 - a. Align the tractor in a straight line with the semitrailer.
 - b. Back the semitrailer into the desired position, using ground guides.
 - c. Apply the parking brake.
 - d. Shut off the engine.

Evaluation Preparation: Setup: Give the Soldier a tractor and semitrailer and an area that has been marked for the driver to back the tractor and semitrailer into.

Brief Soldier: Tell the Soldier to safely back the tractor with semitrailer to a predetermined spot, without damaging the tractor and semitrailer or physical surroundings and without injuring personnel.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Prepared to operate the tractor.	_____	_____
2. Set the vehicle in motion.	_____	_____
3. Backed the semitrailer to the left.	_____	_____
4. Backed the semitrailer to the right.	_____	_____
5. Backed the semitrailer without turning (straight-line).	_____	_____
6. Parked the semitrailer.	_____	_____

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.

References

Required

TM 9-2320-273-10
TM 9-2320-303-10
TM 9-2330-359-14&P

Related

FM 21-305
TC 21-305-6
TM 9-2320-272-10
TM 9-2320-366-10-1
TM 9-2320-366-10-2
TM 9-2330-386-14&P

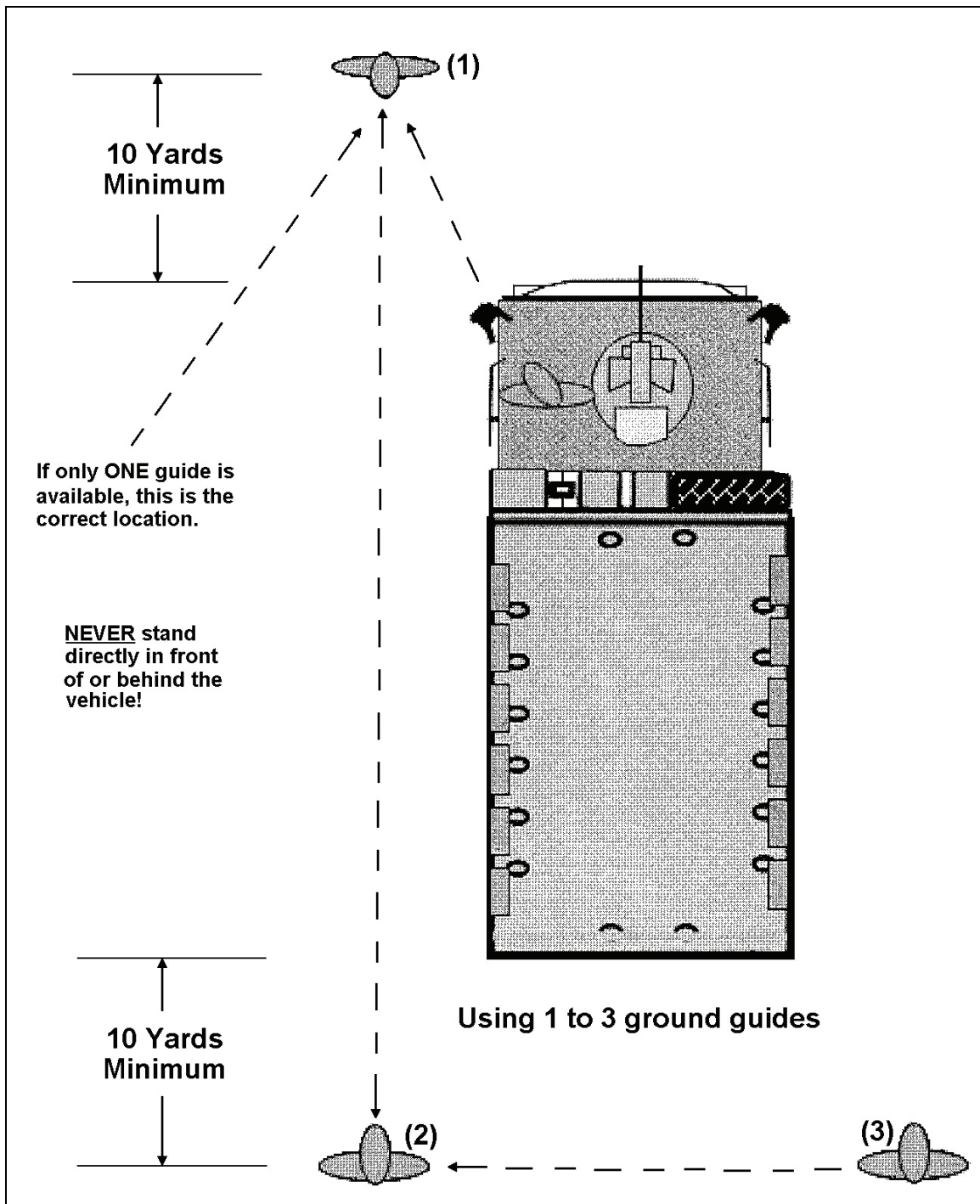
Perform as Wheeled Vehicle Ground Guide Day or Night
551-88M-1384

Conditions: During daylight and darkness, given a flashlight, assistant ground guide(s), vehicle with driver, an area to maneuver, and hearing protection as needed.

Standards: You have positioned yourself and successfully portrayed each visual hand signals that correctly represents the intended vehicle movement. You have influenced vehicular movement in indicating visual signals of attention, mount, starting the engine, move forward, slow down, right or left turn, move in reverse, open up, close up, increase speed, halt of stop, stop engine, and dismount. You safely employed the visual hand signals for nighttime using a flashlight. There were no injuries to personnel or damage to vehicle or surroundings.

Performance Steps

1. Make preparations to ground guide a wheeled vehicle (see Figure 3-1).
 - a. Ensure that a 360-degree walk around of the vehicle is done to ensure there are no obstructions that will inhibit the vehicle's movement (applies to crew member, guide, or the driver).
 - b. Coordinate with driver to ensure the following:
 - (1) That only one person gives hand signals to the driver (if using more than one ground guide).
 - (2) For the driver to immediately stop vehicle if the driver loses sight of the ground guide or flashlight (at night).
 - (3) If hand signals are not understood, the vehicle must stop and signals clarified.
 - (4) To follow the flashlight movements (at night) until the light goes out.
 - c. Determine best line-of-sight location for ground guiding.
 - d. Does not position as ground guide, directly in front of or behind vehicle.
 - e. Ensure driver knows exact position of all ground guides before movement.
 - f. Ensure the driver knows to sound horn (if tactically permitted) before backing.
 - g. Use a blue-screened flashlight to guide vehicle at night.
 - h. Ensure that vehicle does NOT open either vehicle door while backing vehicle.
2. Reconnoiter the area the vehicle will be traveling through.
 - a. Ensure area of travel is large enough to accommodate size of vehicle.
 - b. Ensure path of travel is free of obstacles that would impede movement of both ground guide and vehicle such as:
 - (1) Deep gullies.
 - (2) Fallen trees.
 - (3) Submerged areas (unless known to support vehicle travel).
 - (4) Overhead obstructions.
 - (5) Steep downgrades or upgrades.
 - (6) Restricted areas.
 - c. Inform driver if any obstacles that must be negotiated or any operational precautions (use 4-wheel drive or low range) to take before movement.

Performance Steps**Figure 3-1. Ground Guides**

Performance Steps

3. Employ visual hand signals to guide vehicle movement (see Figure 3-2 through Figure 3-19).

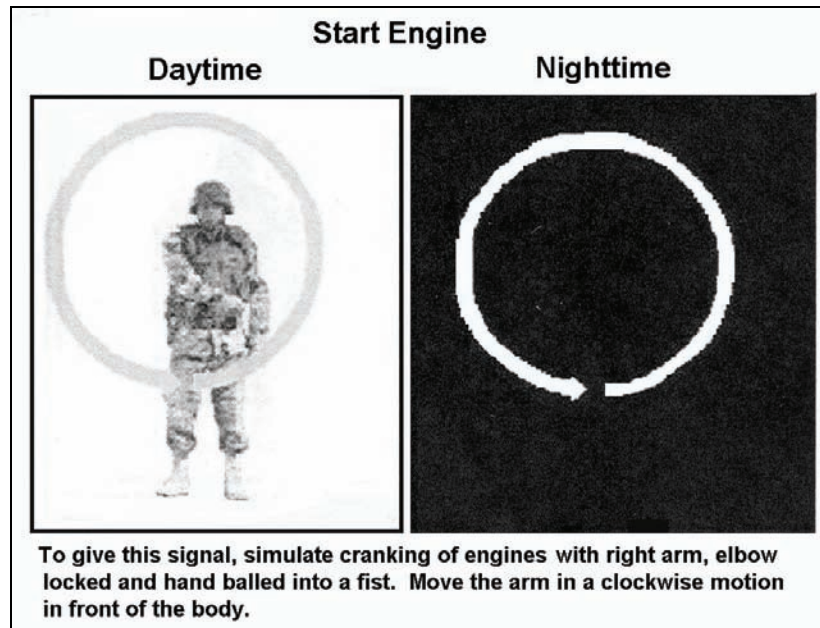


Figure 3-2. Start Engines

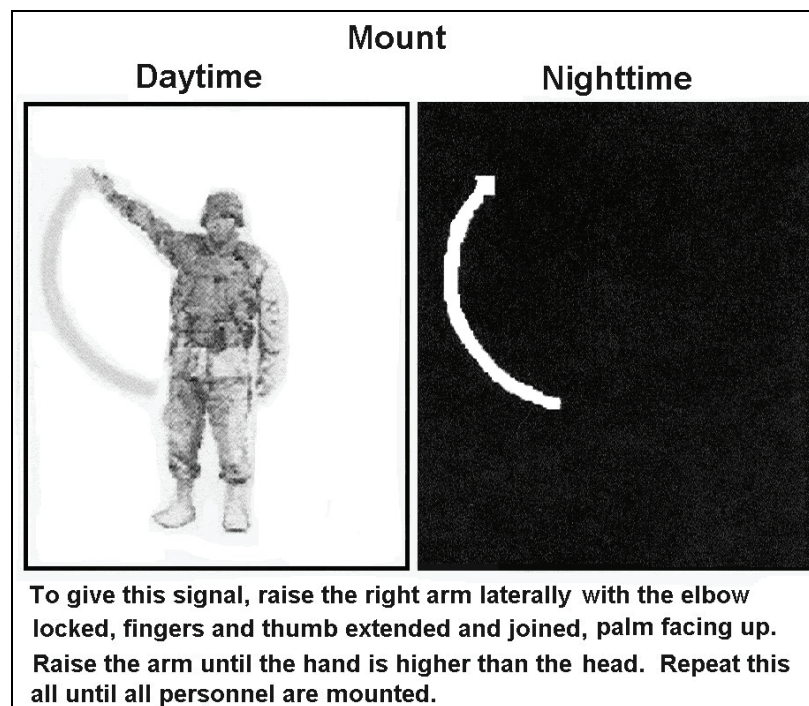


Figure 3-3. Mount

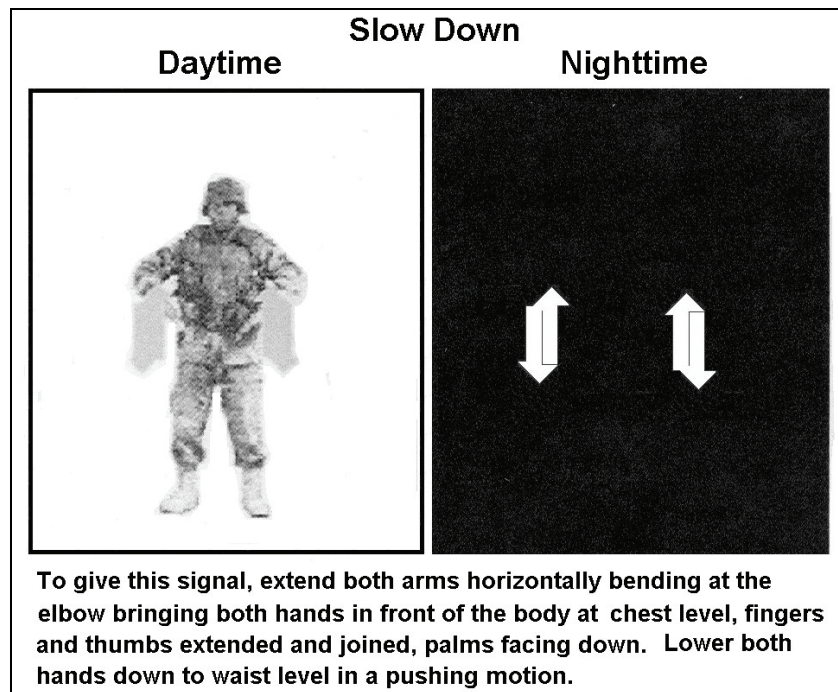


Figure 3-4. Slow Down

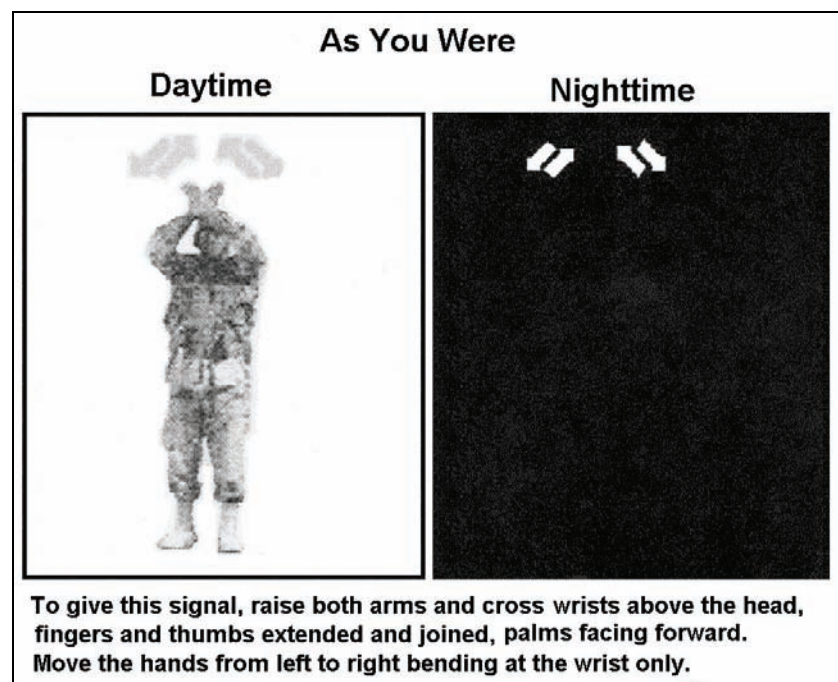


Figure 3-5. As You Were

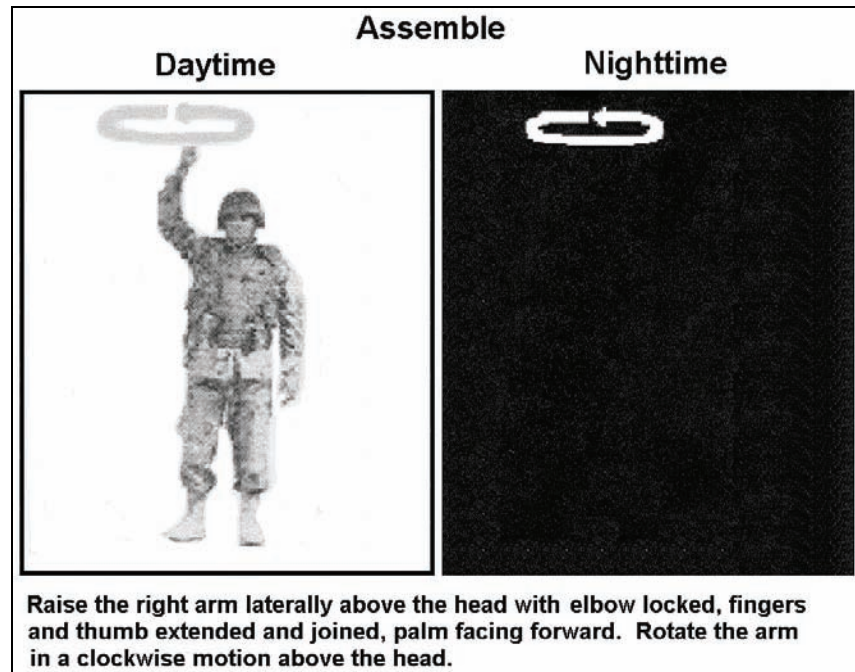


Figure 3-6. Assemble

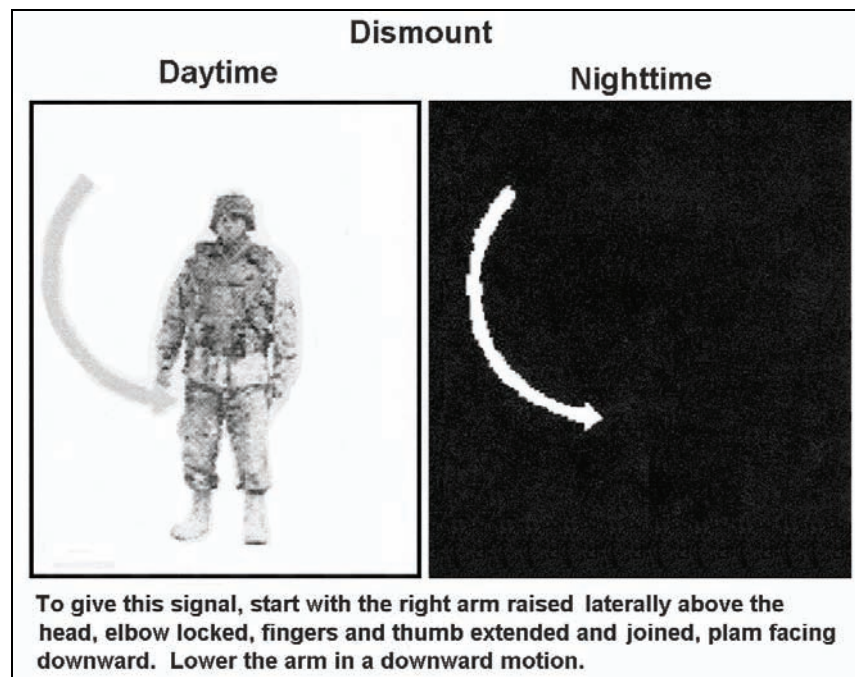


Figure 3-7. Dismount

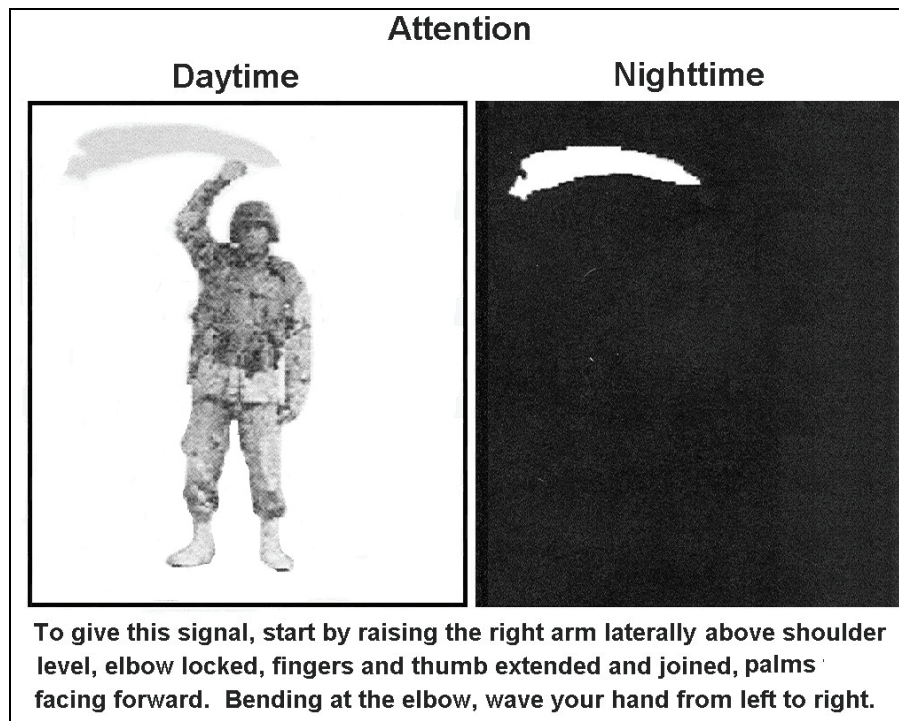


Figure 3-8. Attention

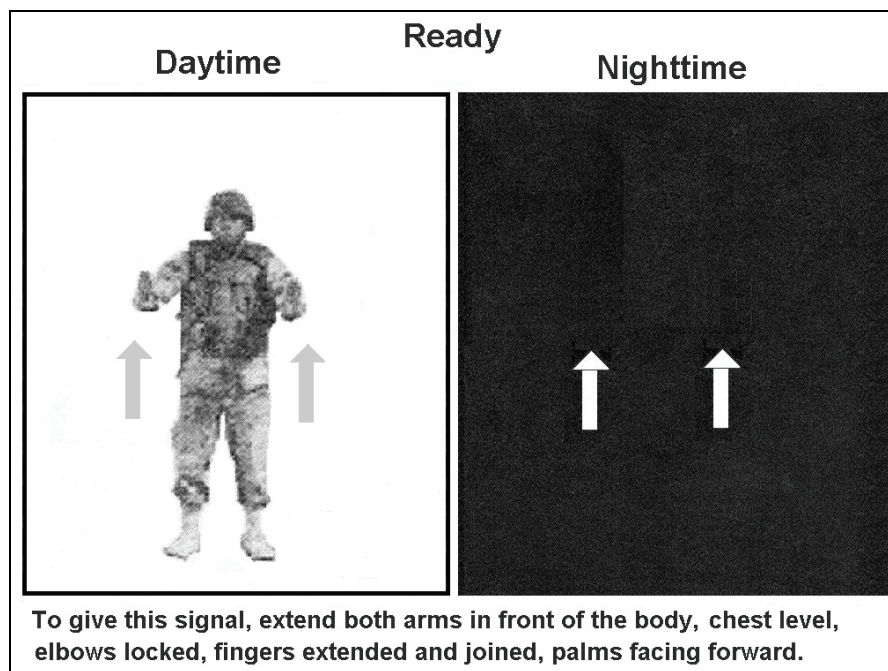


Figure 3-9. Ready

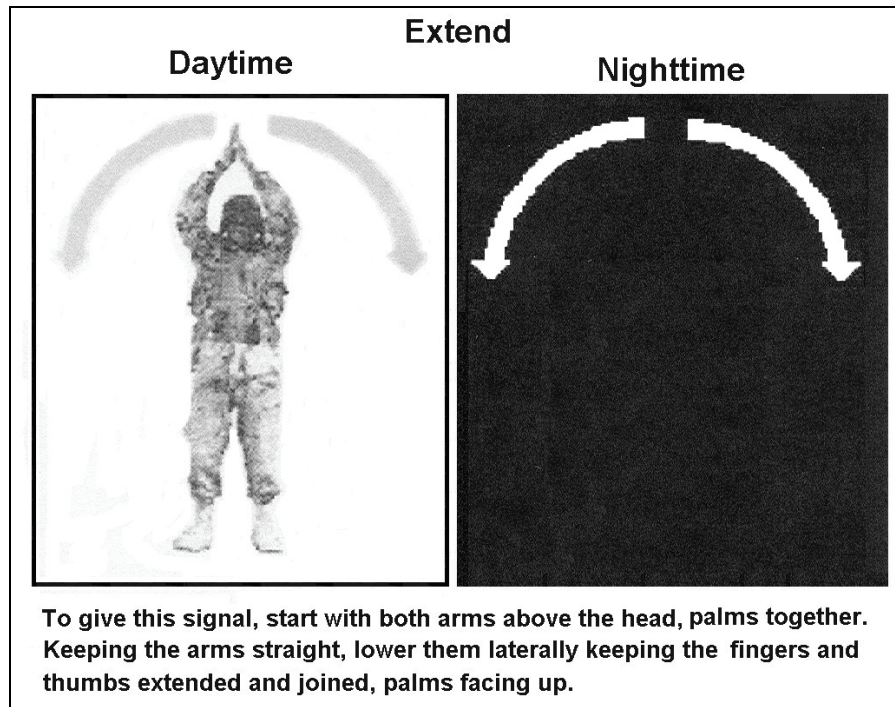


Figure 3-10. Extend

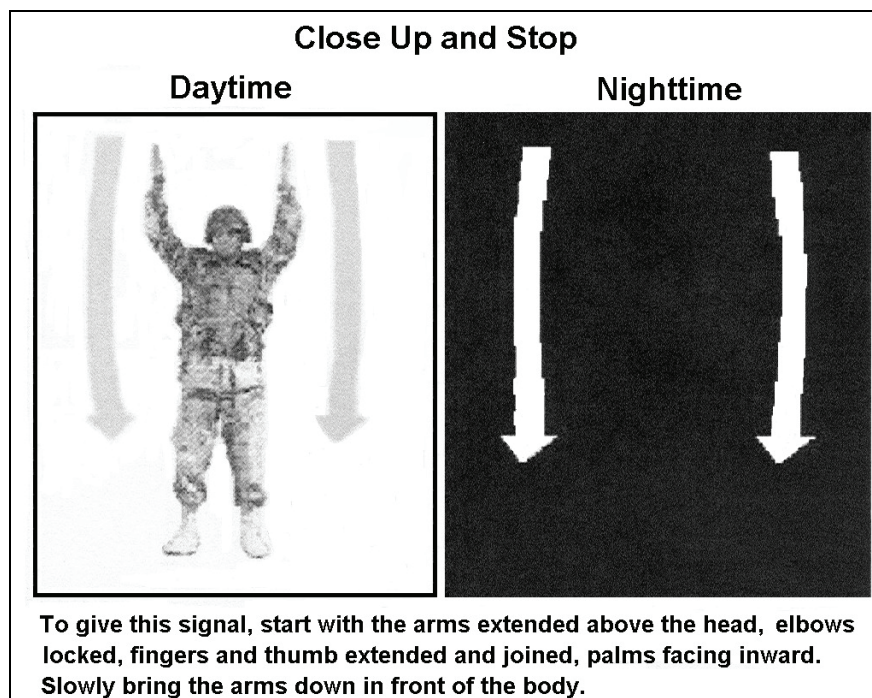


Figure 3-11. Close Up and Stop

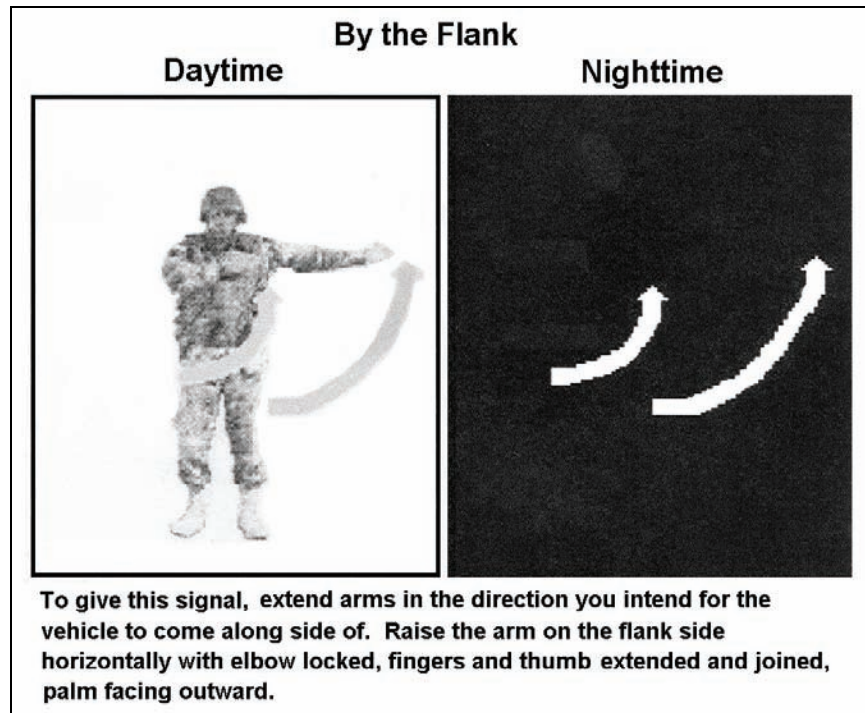


Figure 3-12. By the Flank

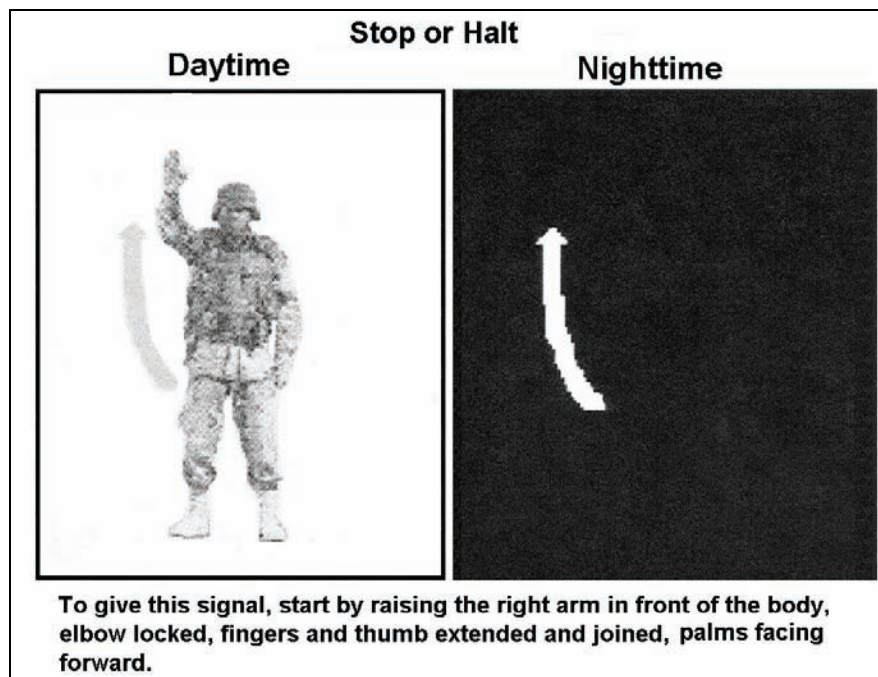


Figure 3-13. Stop or Halt

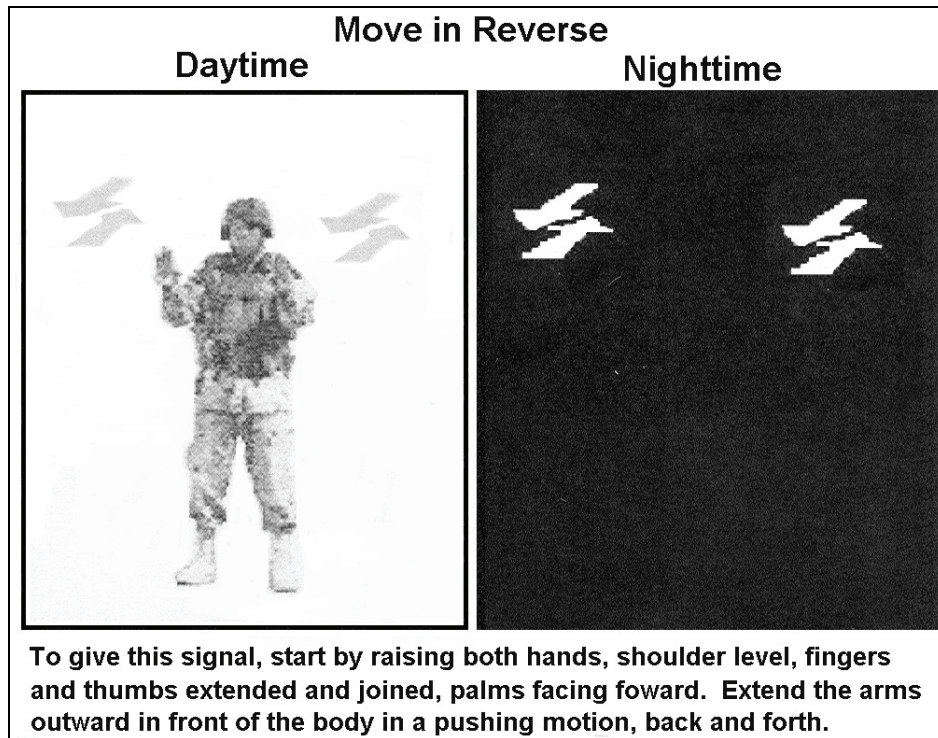


Figure 3-14. Move in Reverse

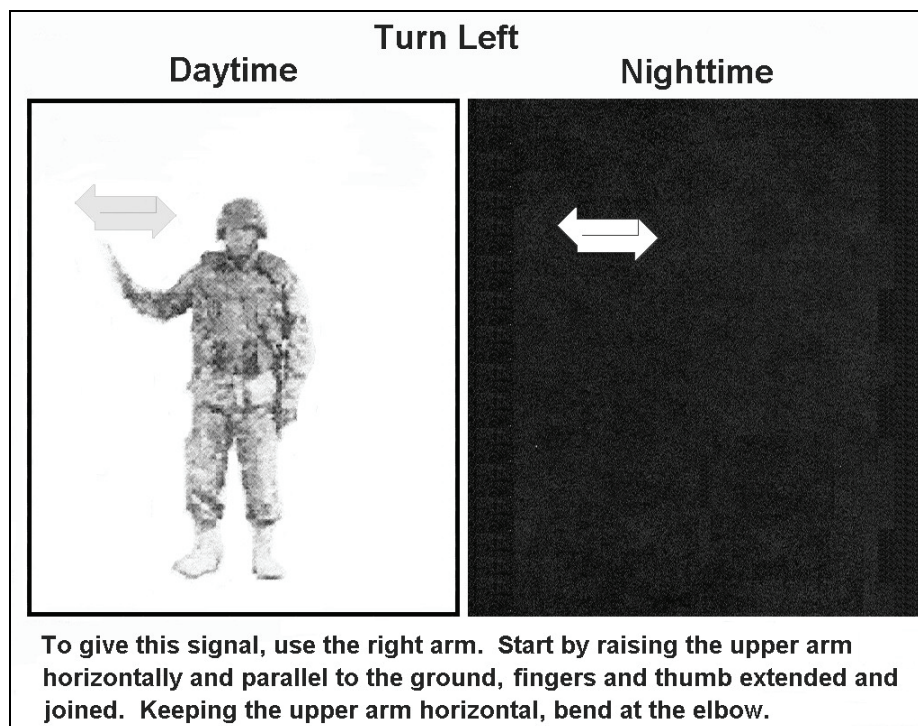


Figure 3-15. Left Turn

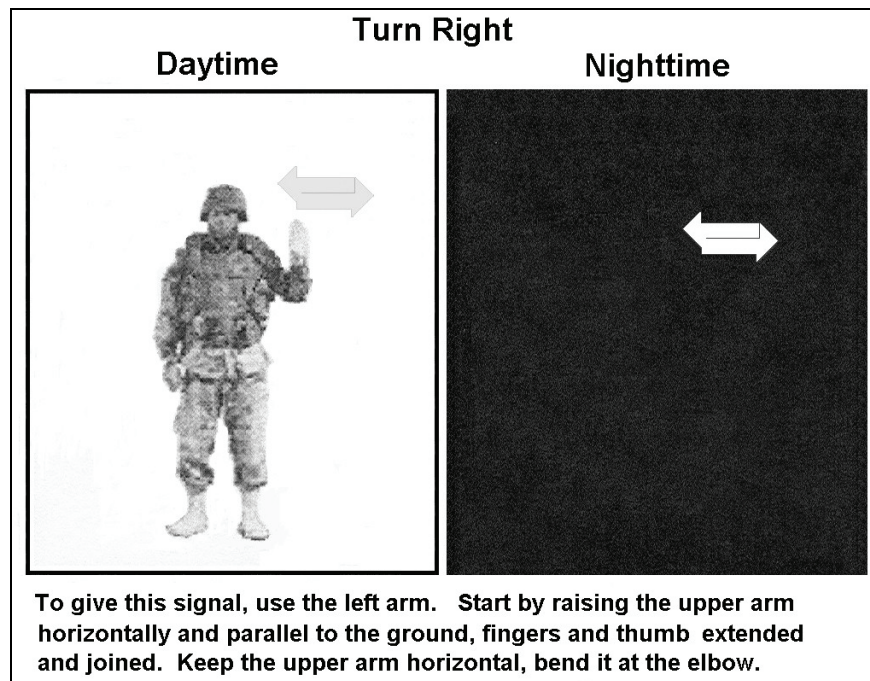


Figure 3-16. Right Turn

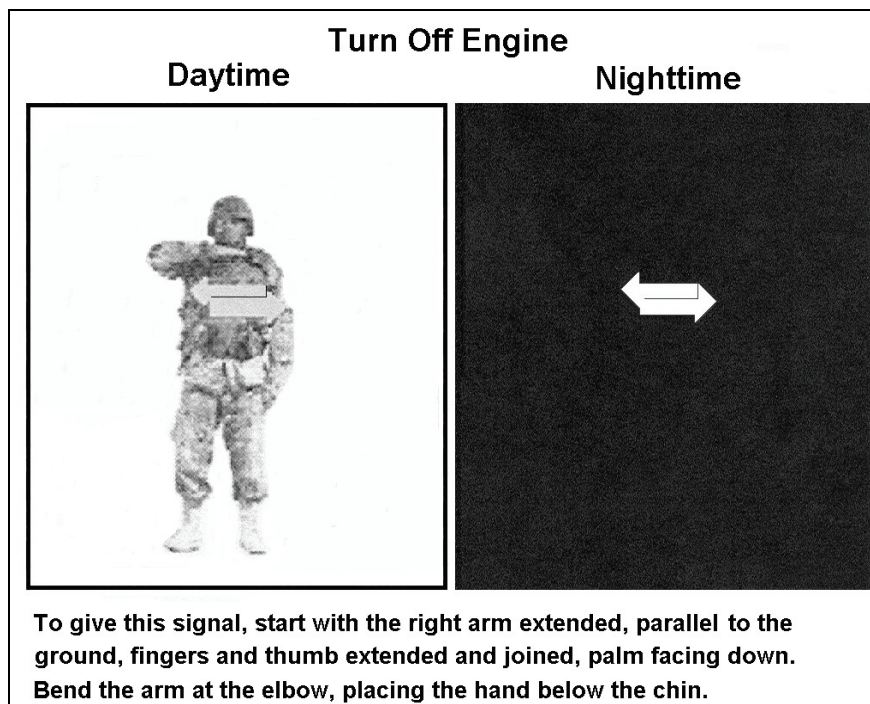


Figure 3-17. Turn Off Engines

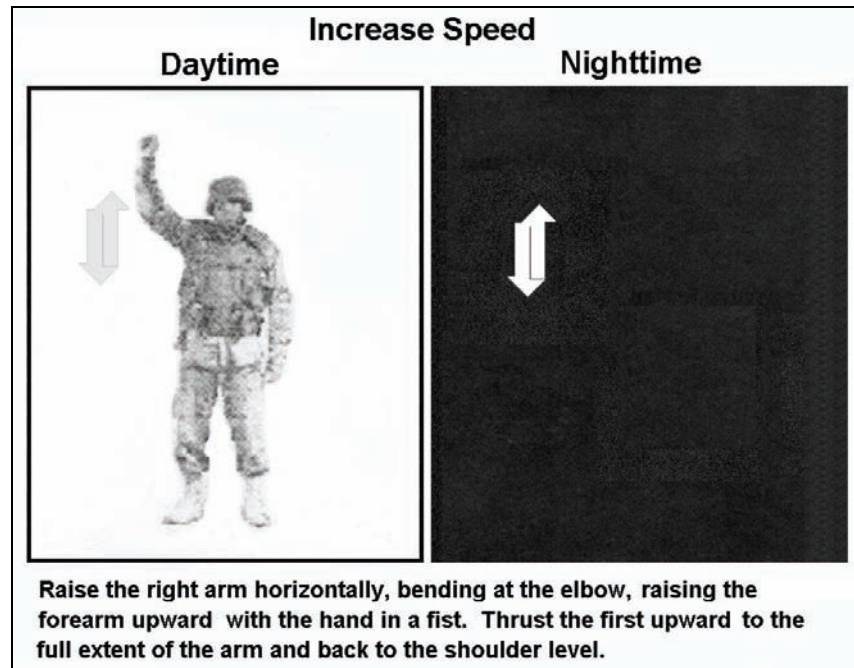


Figure 3-18. Increase Speed

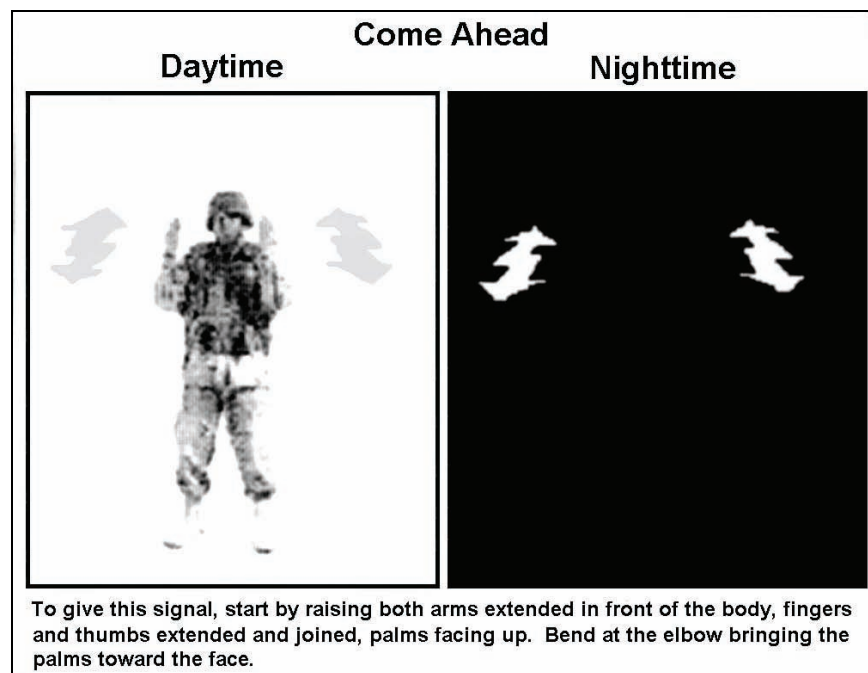


Figure 3-19. Come Ahead

Evaluation Preparation: Setup: Give the Soldier a vehicle and driver, BII, and designated route during both day and night.

Brief Soldier: Tell the Soldier to ground guide the vehicle into a designated area during day and night.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Made preparations to ground guide a wheeled vehicle.	_____	_____
2. Reconnoitered the area the vehicle will be traveling through.	_____	_____
3. Employed visual hand signals to guide vehicle movement.	_____	_____

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.

References

Required

FM 21-60
FM 21-305

Related

Operate PLS/HEMTT-LHS Truck 551-88M-1500

Conditions: Given a mission-ready, dispatched Palletized Load System (PLS) or Heavy Expanded Mobility Tactical Truck (HEMTT) Load Handling System (LHS) truck with before-operation inspections performed, designated route to operate, hearing protection, technical manual (TM), and all basic issue items (BII).

Standards: You have prepared the vehicle for operation by making all necessary driver adjustments; performed all starting procedures; and operated the vehicle within its capabilities and limitations over normal terrain, steep grades, and off-road. You have adhered to all WARNING and CAUTION statements in the applicable TM. You have complied with all local traffic regulations and have caused no injury to personnel or damage to vehicle during operation.

Performance Steps

1. Prepare vehicle for movement.
 - a. Change vehicle weight indicator as needed.
 - b. Install or stow foot rest.
 - c. Adjust driver seat.
 - d. Operate seat belt.
2. Operate vehicle on-road.
 - a. Drive. Refer to TM 9-2320-364-10, paragraph 2-19, subparagraph a, steps (1) through (29), pages 2-182 to 2-188. Refer to subsequent paragraphs as noted in the TM.
 - b. Reverse. Refer to TM 9-2320-364-10, paragraph 2-19, subparagraph b, steps (1) to (19), pages 2-189 to 2-193. Refer to subsequent paragraphs as noted in the TM.
 - c. Slippery Conditions On Road and Off Road. Refer to TM 9-2320-364-10, paragraph 2-19, subparagraph c, steps (1) to (5), pages 2-193 to 2-195. Refer to subsequent paragraphs as noted in the TM.
 - d. Comply with all WARNING and CAUTION statements in the TM regarding the procedures in item 2, subparagraphs a, b, and c above.
3. Operate vehicle off-road.
 - a. Refer to TM 9-2320-364-10, paragraph 2-20, subparagraphs a through s, pages 2-196 to 2-201. Refer to subsequent paragraphs as noted in the TM.
 - b. Adhere to all WARNING and CAUTION statements in the TM for this procedure.
4. Operate vehicle on steep grades.
 - a. Refer to TM 9-2320-364-10, paragraph 2-21, subparagraph a, pages 2-202 to 2-206 for driving up moderate to steep grades. Refer to subsequent paragraphs as needed in the TM.
 - b. Refer to TM 9-2320-364-10, paragraph 2-21, subparagraph b, page 2-207 to drive down steep grades. Refer to subsequent paragraphs as needed in the TM.
 - c. Adhere to all applicable WARNING and CAUTION statements in the TM for this procedure.

Performance Steps

5. Operate Vehicle On Road (HEMTT-LHS). Refer to TM 9-2320-279-10-1, paragraph 2-11, subparagraphs a through i, pages 2-155 to 2-172.
 - a. Start a cold engine.
 - b. Start a warm engine.
 - c. Operate service brakes.
 - d. Operate trailer brakes.
 - e. Operate transmission and transfer case.
 - f. Use engine brake.
 - g. Drive forward.
 - h. Drive in reverse.
 - i. Drive on highway.
 - j. Drive in city traffic.
 - k. Adhere to all WARNING and CAUTION statement in the TM.
6. Operate Vehicle Off Road (HEMTT-LHS). Refer to TM9-2320-279-10-1, paragraph 2-11, subparagraph k, page 2-173.
 - a. Set transfer case to L (LO).
 - b. Move range selector to 3, 2, or 1 depending on terrain conditions.
 - c. Push in parking brake control.
 - d. Slowly depress throttle until vehicle reaches desired speed.
 - e. Accelerate, brake, and steer as desired.
 - f. Adhere to all WARNING and CAUTION statements in the technical manual.
7. Operate Vehicle on Steep Grades (HEMTT-LHS). Refer to TM 9-2320-279-10-1, paragraph 2-11, subparagraphs l and m, page 2-174.
 - a. Depress and hold throttle as vehicle climbs up the grade. Transmission will downshift automatically as needed.
 - b. Move range selector to low range as needed to keep engine speed on tachometer between 1,650 and 2,100 rpm.
 - c. Use service brake as needed to control speed.
 - d. Use engine brake as needed.
 - e. Adhere to all WARNING and CAUTION statements in the TM.

Evaluation Preparation: Setup: Provide the Soldier with a mission-ready PLS/HEMTT-LHS truck with before-operation maintenance performed. Have a prescribed course to operate the vehicle that will allow safe operation in maneuvering the vehicle through steep grades and on and off road.

Brief Soldier: You are required to operate the PLS/HEMTT-LHS truck over normal terrain as well as up steep grades, down steep grades, and off road. All preparation for operation and operation of vehicle through the various terrains must be performed while adhering to all WARNING and CAUTION statements and completing all required steps in the vehicle's TM. Failure to comply with the vehicle's TM with regard to operational steps and safety will result in a NO-GO for this task. You are required to possess a valid operator's permit indicating the model of vehicle being operated or a valid learner's permit while accompanied by a licensed operator of either the M1074/M1075 PLS or the M1120A2 HEMTT-LHS Tractor Truck.

Performance Measures**GO** **NO-GO**

- | | | |
|---|--|--|
| <ol style="list-style-type: none"> 1. Prepared vehicle for movement. <ol style="list-style-type: none"> a. Changed vehicle weight indicator as needed. b. Installed or stowed foot rest. c. Installed or stowed foot rest. d. Operated seat belt. 2. Operated vehicle on-road. <ol style="list-style-type: none"> a. Drive. Referred to TM 9-2320-364-10, paragraph 2-19, subparagraph a, steps (1) through (29), pages 2-182 to 2-188. Refer to subsequent paragraphs as noted in the TM. b. Reverse. Referred to TM 9-2320-364-10, paragraph 2-19, subparagraph b, steps (1) to (19), pages 2-189 to 2-193. Refer to subsequent paragraphs as noted in the TM. c. Slippery Conditions On Road and Off Road. Refer to TM 9-2320-364-10, paragraph 2-19, subparagraph c, steps (1) to (5), pages 2-193 to 2-195. Refer to subsequent paragraphs as noted in the TM. d. Comply with all WARNING and CAUTION statements in the TM regarding the procedures in item 2, subparagraphs a, b, and c above. 3. Operated vehicle off-road. <ol style="list-style-type: none"> a. Referred to TM 9-2320-364-10, paragraph 2-20, subparagraphs a through s, pages 2-196 to 2-201. Refer to subsequent paragraphs as noted in the TM. b. Adhered to all WARNING and CAUTION statements in the TM for this procedure. 4. Operated vehicle on steep grades. <ol style="list-style-type: none"> a. Referred to TM 9-2320-364-10, paragraph 2-21, subparagraph a, pages 2-202 to 2-206 for driving up moderate to steep grades. Referred to subsequent paragraphs as needed in the TM. b. Referred to TM 9-2320-364-10, paragraph 2-21, subparagraph b, page 2-207 to drive down steep grades. Referred to subsequent paragraphs as needed in the TM. c. Adhered to all applicable WARNING and CAUTION statements in the TM for this procedure. 5. Operated the HEMTT-LHS truck on-road. <ol style="list-style-type: none"> a. Referred to TM 9-2320-279-10-1, paragraph 2-11, subparagraphs a through i. b. Adhered to all WARNING and CAUTION statements in the TM. | <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> | <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> |
|---|--|--|

Performance Measures	<u>GO</u>	<u>NO-GO</u>
6. Operated the HEMTT-LHS truck off-road. a. Referred to TM 9-2320-279-10-1, paragraph 2-11, subparagraphs a through k. b. Adhered to all WARNING and CAUTION statements in the TM.	_____	_____
7. Operated the HEMTT-LHS truck off-road. a. Referred to TM 9-2320-279-10-1, paragraph 2-11, subparagraphs a through k. b. Adhered to all WARNING and CAUTION statements in the TM.	_____	_____

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.

References**Required**

TM 9-2320-279-10-1
TM 9-2320-364-10

Related

TM 9-2320-304-14&P

Operate the Movement Tracking System

551-88M-1600

Conditions: Given a tactical wheeled vehicle, equipped with a mounted Movement Tracking System (MTS) mobile unit, DAAB 15-99-D-0014, mission traffic information, and target vehicle(s) with which to communicate.

Special Conditions: The target MTS with which to send message traffic to may either be another MTS Mobile Unit or an MTS Control Station, set up to monitor and provide traffic data.

Standards: Power up the MTS mobile unit (to include PLGR if installed using Legacy System), enter the tactical net, send and receive digital message(s), exit the net, and power down the unit.

Performance Steps

1. Conduct V2 configuration power on procedures.

WARNINGS

A DRIVER SHOULD NEVER OPERATE MTS EQUIPMENT WHILE THE VEHICLE IS MOVING. ONLY A PASSENGER SHOULD OPERATE THE COMPONENTS IN A MOVING VEHICLE. DRIVER OPERATION OF THE MTS COMPUTER IN A MOVING VEHICLE COULD CAUSE AN ACCIDENT INJURING THE DRIVER AND PASSENGER(S) AS WELL AS DAMAGING THE VEHICLE.

USE OF ENGINEER TAPE (OR SOME OTHER MEDIUM) TO MARK THE EQUIPMENT'S LOCATION IS ADVISED, IF THE EQUIPMENT APPEARS TO AFFECT A SOLDIER'S NORMAL INTERACTION WITH THE VEHICLE.

THE RUGGEDIZED COMPUTER (V2) HAS A SMALL 10.5" SCREEN AND KEYBOARD. THE SCREEN CAN CAUSE EYESTRAIN IF USED FOR EXTENDED PERIODS WITHOUT BREAKS. SOLDIERS SHOULD ONLY USE THE SYSTEM WHEN NECESSARY. THE FUNCTION OF THE COMPUTER IS TO SEND OPERATIONAL MESSAGES OR VIEW MAPS AND NOT FOR PLAYING GAMES OR SENDING PERSONAL MESSAGES.

THE TERM "LOW VOLTAGE" CAN BE MISLEADING. VOLTAGE MEASURES AS LOW AS 50 VOLTS MAY CAUSE DEATH UNDER CERTAIN CONDITIONS. FAILURE TO POWER THE CONTROL STATION FROM A GROUNDED 110/220 AC OUTLET MAY RESULT IN SERIOUS INJURY (SEE SECTION ON CONTROL STATION INSTALLATION). NEVER TOUCH AN EXPOSED WIRE. IF A PIECE OF EQUIPMENT APPEARS DAMAGED, DO NOT TOUCH IT. INFORM YOUR SYSTEM ADMINISTRATOR, COMBAT SERVICE SUPPORT AUTOMATION MAINTENANCE OFFICER (CSSAMO), OR A COMTECH FIELD SERVICE REPRESENTATIVE (FSR) IMMEDIATELY. A FSR WILL NEED TO REPAIR/REPLACE THE SYSTEM.

Performance Steps**WARNINGS (CONTINUED)**

BE CAREFUL NOT TO HAVE FINGERS UNDER THE BRACKET WHILE ATTACHING TO THE MOUNT. HOLD TRANSCEIVER ON THE SIDES WITH FINGERS SPREAD AS IF YOU WERE HOLDING A HOT DINNER PLATE.

- a. Power on the V2 control box. Flip the power switch to ON in order to power up the unit. The LED light on the control box will illuminate green. The LEDs on the satellite transceiver, if connected, will also illuminate.
- b. Power on the ruggedized computer.
 - (1) The computer will power on when the control box switch is on. Wait for the computer to load/initialize software.
 - (2) When prompted, press CTRL-ALT-DEL to login. If the system does not have a keyboard, users will follow this function on the virtual keyboard loaded on the tablet.
 - (3) A security window similar to the one below will appear. Read over the text in the window, and click OK with agreement to the terms.
 - (4) Enter username and password, and then click OK. The Windows desktop contains the MTS Messenger and TracerLink icons. MTS Messenger will automatically start. If it does not, start the MTS Messenger software manually by double clicking on the MTS Messenger icon.

2. Start MTS Messenger.**NOTES:**

1. Multiple instances of the MTS Messenger application should not be open at the same time. The following error message will display if the user opens MTS Messenger while it is already open and running. The user should click OK. This will close the second instance of MTS Messenger.
2. The computer should open MTS Messenger automatically. However, if Messenger does not start, and a Comtech Mobile Datacom Field Service Representative (FSR) is not available, follow the steps listed below.
 - a. To start MTS Messenger double-click the MTS Messenger icon located on the desktop.
 - b. Enter the bumper number (logging into the network). The bumper number can be up to 32 characters long including letters, numbers, spaces, and dashes (-).
 - c. If connected to a MT 2012 transceiver, the system will automatically find the COM ports. If connected to a MT 2011 transceiver, users will be asked to select the Terminal COM Port. V2 users select COM 3 (J4).
 - d. V2 users select COM 1 (J3). After successfully starting MTS Messenger, the standard display screen also known as the command reference will appear.
 - e. Ensure all status blocks are displayed at bottom of screen.
 - f. Wait for network registration. The bumper number and transceiver ID will appear in status block 4 at the bottom when network registration completes.

Performance Steps

NOTE: The MTS Messenger status blocks, found on the bottom of the display screen, are numbered from left to right starting with block one (1).

1. Status block one (1) displays the communication between the transceiver and the computer. When the number in this queue reaches 40, restart MTS Messenger to clear the queue.
2. Status block two (2) contains the incoming messages queue, which displays the number of unread messages.
3. Status block three (3) contains MIL GPS status. A FOM (Figure of Merit) displays as "MILGPS: 1 to 5 degrees when the SAASM receives a valid GPS Fix. If the crypto keys are cleared or zeroed, a unit will still receive commercial grade GPS position, but ERROR will appear. To check FOM, simply go to the standard command reference through the Help menu. A FOM of five (5) or below will allow the MTS to report the unit's position. If using a MT2011 transceiver, GPS status: PLGR 1 – 5 displays.
4. Status block four (4) contains the bumper number (BN) and the transceiver ID (XCVR). The BN will appear after the network registration response from the ground station has been received, about 5 to 10 minutes.
5. Status block five (5) contains the time in Universal Time Code (UTC).

- g. Ensure that all three programs; MTS Messenger, TracerLink, and Map Viewer are running on the laptop for the MTS to function.

3. Read messages.

NOTE: When the incoming messages queue indicator in status block two (2) contains unread messages, the bottom bar will turn YELLOW until all messages are read. If the bottom bar turns RED, a distress signal has been sent out by another unit and is in the message queue.

- a. Select Read Messages, then Read Current, Press F1, or press ALT and R sequentially to read messages.
- b. In the Read Messages screen, click the message number you wish to read. It will default to the most recent message received. The text of the message will appear in the Message Text Field. Click the Reply button to return a message to the sender or the Done button to go back to the main window. Use the up and down arrow keys to move between messages.

NOTE: If you have not received messages, (for example, right after you started MTS Messenger) and you selected Read Messages, Read Current via the pull down menu, pressing F1, or by pressing the ALT and R keys sequentially, this dialog box will display.

4. Send messages.
 - a. To an individual unit.
 - (1) Select the send messages pull down menu or use the F2 or F3 function keys on the keyboard.
 - (2) Send message to control station (CS) select send message - to CS or press F2.
 - (3) Send a message to a mobile unit select send message - to mobile or press F3 Send message to a Control Station.

Performance Steps

- (4) Choose recipient for your message by choosing a unit from select unit list. Before you type a message, check the unit status field. This field will let you know if the intended recipient is on line or off line. The unit location field will indicate the position of unit.
- (5) Type the message into the message text field.
- (6) Press send once the message is complete. Press cancel button to return to the main window without sending. Press recall button to load the last sent message into the message box. Press clear to clear.
- (7) Go to read messages - review sent messages to see if the recipient received the message (does not mean they have read it).
- b. Send a message to all members of a control group.
 - (1) Select send messages - to group, or press F4 to send a message to all members of the control group, except the sender. Mobile units will only see one control group, while control stations might be members of several control groups.
 - (2) Enter the text in the message text field and press the send button. Pressing the recall button will load the message box with the text from the last message sent. To close the window without sending a message, press the cancel button. To erase any text in the message text field, press the clear button.
 - (3) After sending message, go to read messages - review sent messages to see if any group members received the message.

5. Start TracerLink program.

- a. Double-click on the TracerLink icon located on the desktop to start the TracerLink application. TracerLink connects to the MTS Messenger program over a TCP/IP socket to receive position data.

NOTE: In order for TracerLink to function, MTS Messenger must be running.

- b. Identify the following program controls and indicators.
 - (1) Symbols.
 - (a) Mobile Unit. Round symbols represent mobile units. A square lug on top of the symbol indicates the unit is turned on and transmitting. No lug on top indicates the unit is turned off.
 - (b) Control Station. Square symbols represent control stations. A square lug on top of the symbol indicates the unit is turned on and transmitting. No lug on top indicates the unit is turned off.

NOTE: A square lug at the bottom of a symbol indicates the vehicle is reporting valid GPS. If a unit is powered on, but it not reporting valid GPS, then the location of the icon on the screen reflects the last known position of the vehicle, and may not reflect the current position of the vehicle.

- (2) Right Click Pop Up Menu. Simply right click with the mouse on the Map Viewer.
- (3) Zoom the Map. To zoom, right click on the map to show the popup menu. Select Zoom In or Zoom Out. Click on the map at the point you wish to become the center of the map. The map will zoom with the point clicked becoming the new center of the map.
- (4) Change Center. Right click the mouse over the map to pop up the menu, select Change Center. Click on the map and the map will move with the point clicked becoming the new center of the map.

Performance Steps

- (5) Pan a Map (Move). Right click the mouse over the map to pop up the menu, select Move. The cursor becomes a hand. Click on the map and hold down the left mouse button, then drag the map to the desired position. When you release the mouse, the map will redraw in the new position.
- (6) Measure Distance on a Map. Right click on the map and then select Measure. Click and drag the cursor from point A to point B on the map. Before releasing the button, look at the scale display at the bottom of the map window. It displays the distance in kilometers, nautical miles, or statute miles. Once you release the mouse, the distance measurement will disappear.
- (7) Reset Map to Initial View. Right click on the map and select Reset.
- (8) Units-Changing Units of Measure. Right click on the map and select Unit. Select whether you want the map in Kilometers, Nautical Miles, or Statute Miles.
- c. Navigate through the Server Vehicle Kit Control Window. Use the Server Vehicle Kit Control Window to trace a vehicle's route, hide a vehicle, or display a vehicle that was previously hidden, or hide/display a vehicle's name and last position report time.
 - (1) Display the Server Kit Control Window.
 - (a) Method One. Right click the mouse and choose Select Vehicle on the popup menu. This will change your cursor into a hand with a pointed finger. Left click on the map (with the hand) whether over a vehicle's icon or over a bare spot. If you clicked over a vehicle's icon, the vehicle kit window will display the clicked vehicle(s) in the pane. If you clicked over a bare spot the window will be empty.
 - (b) Method Two. Slowly slide the cursor off the screen to the right side of the map. When you approach the edge of the map the Kit Bar will appear.
 - (2) Display information in the Server Kit Control Window.
 - (a) The Assignments Tab. Click on the Assignment Tab to display vehicle information in a hierarchical fleet view.
 - (b) The Selection Tab. Click on the Selection Tab to display vehicle information listed by vehicle.
 - (c) Enable Autotrack function.
 - 1) Right click on the map to get the popup menu.
 - 2) Choose the Select Vehicle option from the pop up window.
 - 3) Click on the vehicle you wish to track. The Server Vehicle Kit Control window will open with the Selection tab containing a list of vehicles.
 - 4) Right click on the vehicle you wish to track, select State - Track.

NOTE: If the vehicle you are tracking is off the map, use the Assignments tab instead of the Selection tab to make the change.

- (d) Enable Trace function.
 - 1) Right click on the map to get the popup menu.
 - 2) Choose the Select Vehicle option from the popup menu.
 - 3) Click on the vehicle you wish to trace. The Server Vehicle Kit Control window will open with the Selection tab containing a list of vehicles.
 - 4) Right click on the vehicle you wish to trace, and then select Display - Trace.

Performance Steps

- (e) Hiding/Show and individual vehicle's name.
 - 1) Right click on the map to get the popup menu.
 - 2) Choose Select Vehicle.
 - 3) Click on the vehicle you wish to name (un-name). The Server Vehicle Kit Control window will pop up listing the vehicles.
 - 4) To turn the name on, right click on the name in the Server Vehicle Kit Control window and select Display - Name.
- (f) Hide/Show entire control groups.
 - 1) Right click on the map to get the popup menu.
 - 2) Choose Select Vehicle.
 - 3) Click on the map so that the Server Vehicle Kit Control window pops up.
 - 4) Select Assignments tab. The various control groups will be listed with expandable plus boxes next to each one.
 - 5) Right click on a Control Group (such as 001, 002, 003, and so forth), and select All Vehicles - Hide. If a control group is already hidden, to show it, simply select All Vehicles - Show.
- (g) Display/Hide Report Time Labels for an Individual Vehicle.
 - 1) Right click on the map to get the popup menu.
 - 2) Choose Select Vehicle.
 - 3) Click on the map with the mouse so that the Server Vehicle Kit Control window pops up.
 - 4) Select the Assignments tab.
 - 5) Right click on a vehicle and select Display - Time. If the time was not previously displayed, it will be. If the time was previously displayed, it will be turned off.
- (h) Display/Hide Report Time Labels for an Entire Control Group.
 - 1) Right click on the map to get the popup menu.
 - 2) Choose Select Vehicle.
 - 3) Click on the mouse so that the Server Vehicle Kit Control window pops up.
 - 4) Select the Assignments tab.
 - 5) Right click on the fleet name and select All Vehicle -Time - Display or All Vehicles - Time - Hide.
- (i) Center the map on a vehicle.
 - 1) Right click on the map to get the popup menu.
 - 2) Choose select vehicle.
 - 3) Click on the map with the mouse so that the Server Vehicle Kit Control window pops up.
 - 4) Select the Assignments tab.
 - 5) Open the control group, right click on the vehicle you wish to find and select Center on Vehicle.

Performance Steps

6. Perform power off procedures.

CAUTION

Improper shut down of system may result in data loss.

- a. Close all applications (MTS Messenger, TracerLink Vehicle Server, TracerLink Map Viewer).
- b. Press CTRL and ESC keys at the same time or click the Start button in bottom left corner of the screen.
- c. Press the U key or select the Shut Down option.
- d. Press ENTER or select Shut Down and then click OK.
- e. The Magnus tablet will automatically power off. Once this occurs, flip the toggle switch on the power box to off. This discontinues power going to the transceiver.
- f. If using the Legacy System and have the PLGR ON, press OFF and wait for the timer, or press the OFF button two times to power down immediately.

CAUTIONS

Failure to turn off the Power ON/OFF button on the Control Box will allow the terminal to continue operation and drain the emergency battery.

Improper shutdown of system may result in data loss.

Evaluation Preparation: Setup: Ensure that MTS mobile unit is installed in the vehicle to be used and target MTS platforms are ready and powered up to receive message traffic. Provide information to the student for use in sending and receiving message traffic communication purposes.

Brief Soldier: You are required to ensure that all connections involved in the proper installation of the MTS mobile unit have been made and the unit is securely mounted. You will then be required to perform a power on procedure followed by starting and operating the software for the system and finally, you will perform the power off procedures. All procedures must be performed in sequence, if applicable. All procedures and communication with other elements will be performed without injury to personnel or damage to equipment.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Conducted V2 configuration power on procedures.	—	—
2. Started MTS Messenger.	—	—
3. Read messages.	—	—
4. Sent messages.	—	—
5. Started TracerLink program.	—	—
6. Performed power off procedures.	—	—

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.

References**Required**

DAAB 15-99-D-0014

Related

Perform Coupling Operations With a Pintle-Connected Trailer

551-88M-1660

Conditions: Given a pintle-connected trailer, fully operational 2.5-ton or larger prime mover, medium tactical vehicle trailer (MTVT) or single axle 2.5-5.0 trailer, or PLS truck and PLS trailer (with before-operation maintenance checks performed), BII, hearing protection, and assistance from a ground guide.

Standards: You are to couple then uncouple the pintle-connected trailer to and then from the prime mover (2.5-ton or larger wheeled vehicle) without injury to personnel or damage to equipment.

Performance Steps

1. Couple vehicle to trailer (for vehicle-trailer combinations other than PLS) (see Figure 3-20a, Figure 3-20b, and Figure 3-20c).

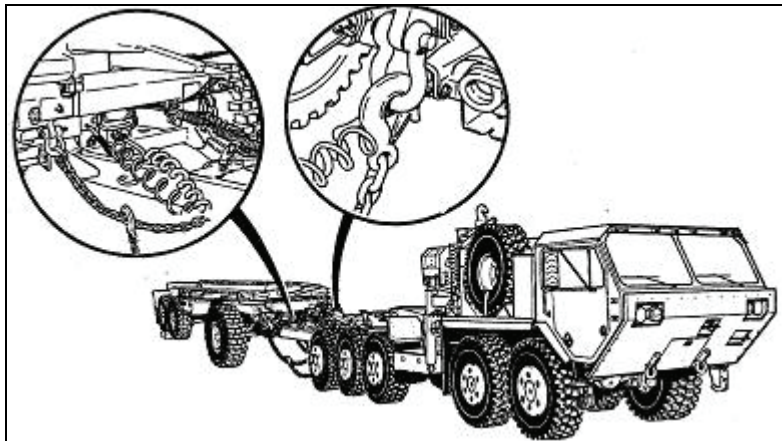


Figure 3-20a. Coupling

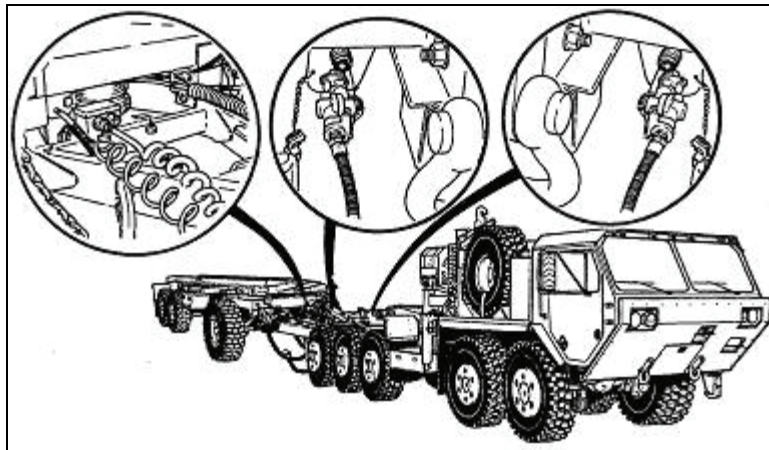


Figure 3-20b. Coupling (continued)

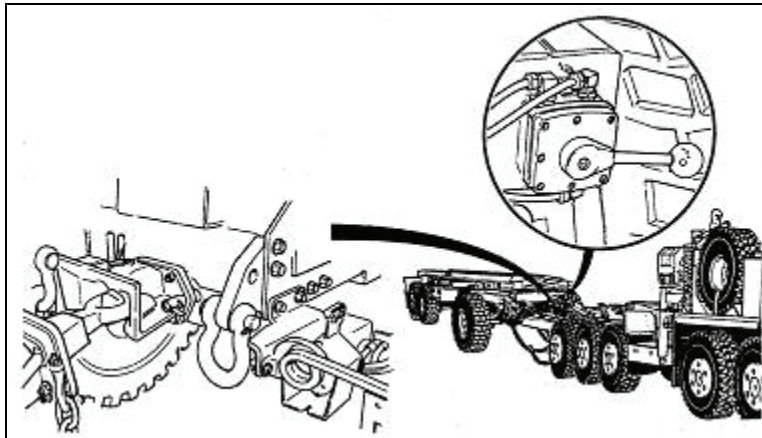
Performance Steps

Figure 3-20c. Coupling (continued)

WARNING

ALL PERSONNEL MUST STAND CLEAR OF TOWING VEHICLE AND TRAILER DURING COUPLING OPERATIONS. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY OR DEATH TO PERSONNEL.

CAUTION

Have assistant direct you during backing operations. Damage to equipment may result if caution is not followed.

- a. Remove chock blocks from vehicle tires.
- b. Start vehicle (see vehicle -10 series TM).
- c. Following visual hand signals from ground guide, align vehicle with trailer and slowly back vehicle until pintle is adjacent to drawbar ring.
- d. Remove pintle lock pin and open pintle.
- e. Release trailer hand brake.
- f. Move trailer as required (with assistance) to engage drawbar ring in pintle.
- g. Close pintle and install pintle lock pin.
- h. Cross safety chains under drawbar ring and attach to towing vehicle eye bolts.
- i. Connect inter vehicular cable to towing vehicle receptacle.
- j. Connect service air hose to towing vehicle glad-hand. If coupling an M105A2C, also connects emergency air hose to towing vehicle glad-hand.
- k. Turn on towing vehicle air valves to apply vacuum or pressure as required.

Performance Steps**WARNING**

IF CARGO TRAILER IS EQUIPPED WITH AN OLD-STYLE SINGLE WHEEL ADJUSTABLE CASTER ASSEMBLY, USE EXTREME CAUTION TO ENSURE THAT LOCKING PIN OF HANDLE HAS SECURELY LOCKED THE ADJUSTABLE CASTER ASSEMBLY IN THE RAISED POSITION. IF LOCKING PIN IS NOT FULLY LOCKED, ADJUSTABLE CASTER ASSEMBLY MAY FALL, RESULTING IN SERIOUS INJURY.

- l. Pull out release handle and at same time, begin raising adjustable caster assembly. Let go of release handle while raising adjustable caster assembly.
 - m. Raise adjustable caster assembly until release handle locks adjustable caster assembly in position. Ensure the release handle is fully engaged.
2. Uncouple the trailer from vehicle (for vehicle-trailer combinations other than PLS).

WARNING

ALL PERSONNEL MUST STAND CLEAR OF TOWING VEHICLE AND TRAILER DURING UNCOUPLING OPERATION. FAILURE TO FOLLOW THIS WARNING MAY RESULT IN SERIOUS INJURY OR DEATH. IF CARGO TRAILER IS EQUIPPED WITH AN OLD-STYLE SINGLE WHEEL ADJUSTABLE CASTER ASSEMBLY, USE EXTREME CAUTION TO ENSURE THAT LOCKING PIN OF HANDLE HAS SECURELY LOCKED THE ADJUSTABLE CASTER ASSEMBLY IN THE RAISED POSITION. IF LOCKING PIN IS NOT FULLY LOCKED, ADJUSTABLE CASTER ASSEMBLY MAY FALL, RESULTING IN SERIOUS INJURY.

- a. Support adjustable caster assembly and at the same time pull out release handle. Lower adjustable caster assembly. Ensure that release handle is fully engaged.
 - b. Disconnect air hose from towing vehicle glad-hand. If uncoupling from an M105A2C, also disconnect emergency air hose from towing vehicle glad-hand.
 - c. Disconnect inter vehicular cable from towing vehicle receptacle and stow on trailer.
 - d. Disconnect safety chains from towing vehicle eye bolts and stow on trailer.

WARNING

ENSURE THAT TRAILER IS PREVENTED FROM MOVEMENT PRIOR TO DISCONNECTING FROM VEHICLE OR SUDDEN MOVEMENT COULD CAUSE INJURY TO PERSONNEL OR DAMAGE TO TRAILER.

Performance Steps

- e. Ensure trailer brakes are set or trailer wheel is chocked prior to disconnecting trailer from vehicle.
 - f. Remove pintle lock pin and open pintle.
 - g. With assistance, move trailer as required to disengage drawbar ring from pintle. Apply trailer handbrakes.
 - h. Move vehicle a safe distance from trailer.
3. Couple PLS truck to PLS trailer (PLS/HEMTT-LHS systems only) (see Figure 3-21 through Figure 3-24).

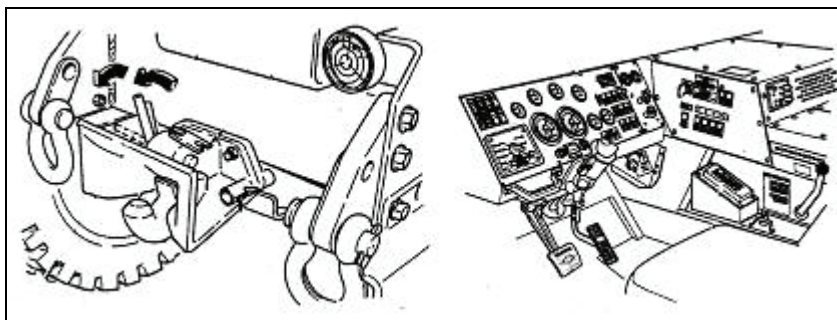


Figure 3-21. Locking Pin and Coupler

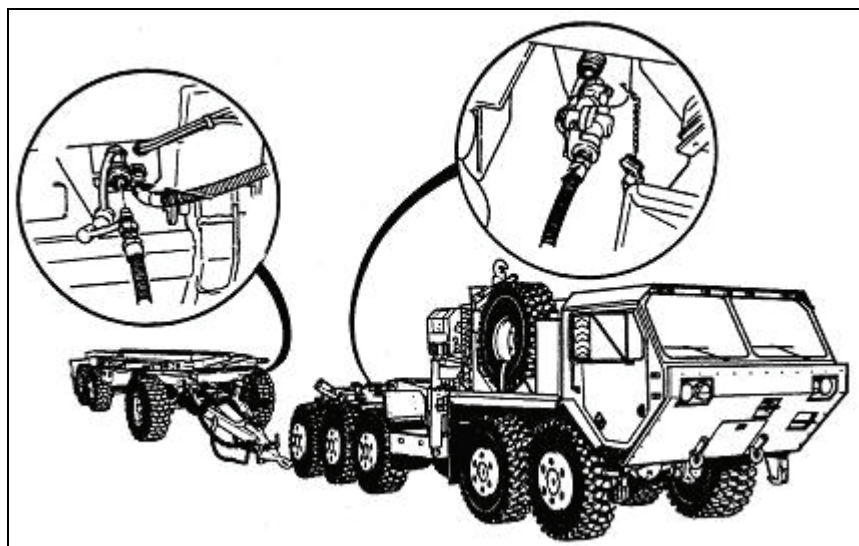
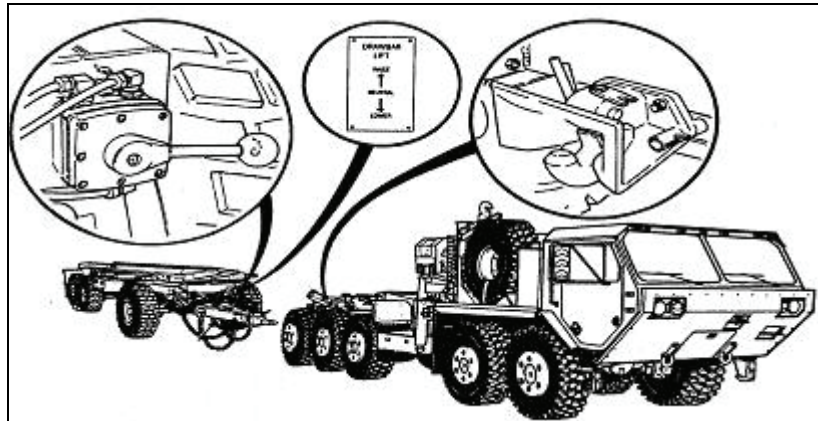
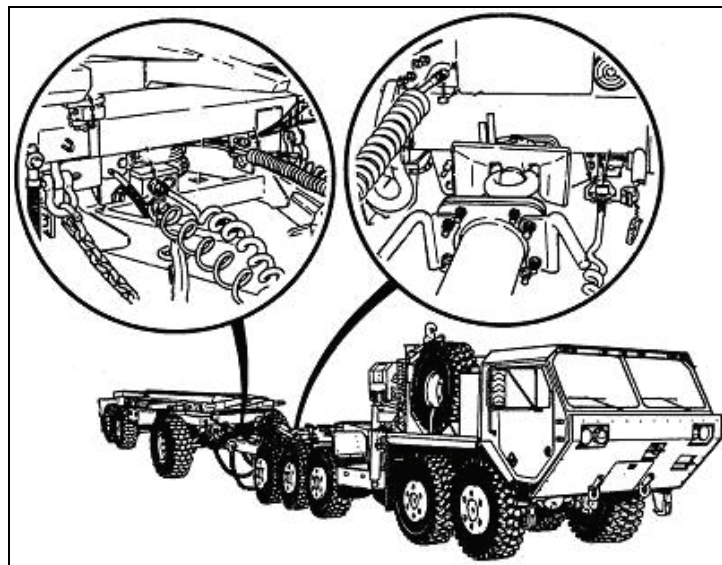


Figure 3-22. Air Coupler

Performance Steps**Figure 3-23. Air Coupling****Figure 3-24. 12-24 Volt Receptacle****WARNINGS**

DO NOT STAND BETWEEN TRAILER DRAWBAR AND TRUCK COUPLER DURING HOOK-UP PROCEDURES TO PREVENT BEING PINNED BETWEEN TRUCK AND TRAILER. SERIOUS INJURY OR DEATH COULD RESULT TO PERSONNEL.

WHEELS ON TRAILER MUST BE CHOCKED TO PREVENT TRAILER FROM MOVING DURING HOOK-UP PROCEDURES. SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

Performance Steps

NOTE: Align truck coupler with drawbar prior to beginning hookup procedures. Follow ground guide signals.

- a. Chock wheels of trailer.
- b. Adjust drawbar if necessary.
- c. Start truck (see vehicle TM) and following ground guide hand and arm signals, back truck to within 6 inches from end of drawbar.
- d. Apply parking brake and place transmission range selector in Neutral (N). Shut off truck.

NOTE: Rotation locking pin should be in locked (UP) position to prevent coupler rotation during hook-up.

- e. Lock rotation locking pin on coupler.
- f. Lift up locking gate on coupler.
- g. Pull locking lever out and pull lever back at the same time to open coupler jaw.

NOTE: Air tank No. 1 must be charged with air for air assist lever to work. If it is not charged, remove the charging hose from the trailer stowage box and perform steps h through t below. If air tank is charged, perform step u.

- h. Remove cover from emergency air glad-hand.
- i. Connect charging hose glad-hand to emergency air glad-hand.
- j. Remove cover from charging hose connector.
- k. Remove cover from trailer quick disconnect.
- l. Connect charging hose connector to trailer quick disconnect.
- m. With truck running, push trailer air supply valve on dash to charge No. 1 air tank.
- n. When fully charged (three to five minutes), release trailer air supply valve on dash and shutoff engine.
- o. Disconnect charging hose connector from trailer quick disconnect.
- p. Install cover on trailer disconnect.
- q. Install cover on charging hose connector.
- r. Disconnect charging hose glad-hand from emergency air glad-hand and stow in stowage box.
- s. Install cover on emergency air glad-hand.

WARNING

DRAWBAR WEIGHS 425 POUNDS, 850 POUNDS WITH DRAWBAR EXTENSION (IF EQUIPPED). DRAWBAR MAY RISE QUICKLY OR FALL SUDDENLY TO THE GROUND WHEN RELEASED FROM COUPLER. DO NOT ALLOW FEET OR BODY TO GET UNDER OR ABOVE DRAWBAR. SERIOUS INJURY OR DEATH TO PERSONNEL MAY RESULT.

- t. Move air assist lever on drawbar air assist valve to UP position and raise drawbar to level of coupler.
- u. Place air assist lever in Neutral position.

Performance Steps

WARNINGS

DO NOT STAND BETWEEN TRAILER DRAWBAR AND TRUCK COUPLER DURING HOOK-UP PROCEDURES TO PREVENT BEING PINNED BETWEEN TRUCK AND TRAILER. SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

WHEELS ON TRAILER MUST BE CHOCKED TO PREVENT TRAILER FROM MOVING DURING HOOK-UP PROCEDURES. SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

- v. Start truck and slowly back up until drawbar makes contact and locks with coupler.
- w. Pull truck forward slightly to verify coupler has latched onto drawbar.
- x. Shut off truck.
- y. Release air pressure by moving air assist lever down for five seconds.
- z. Close locking gate on coupler.
- aa. Unlock rotation locking pin on coupler.
- ab. Remove cover from truck receptacle.
- ac. Connect load lock status line to truck receptacle.
- ad. Remove cover from 7-pin receptacle on trailer and connect 12-volt cable on receptacle.

CAUTION

Both the 12 and 24-volt cables must NOT be connected at the same time. Only one cable can be hooked up during operation or damage to equipment will result. Ensure that receptacle latch is engaged on cable or damage to cable may result. The 12-volt cable is standard for this trailer. Use the 24-volt cable system only when the 12-volt cable cannot be used or blackout lights are used. Perform steps ad and ae for 12-volt system only. Cables are located in the stowage box.

- ae. Lift receptacle cover on truck and connect 12-volt cable on receptacle.

NOTE: Perform steps af and ah for 24-volt system when not equipped with drawbar extension.

NOTE: Perform steps ag and ah for 24-volt system equipped with drawbar extension.

- af. Remove cover from 12-pin receptacle on trailer and connect 24-volt cable on receptacle.
- ag. Remove cover from 12-pin receptacle and connect 24-volt cable on receptacle.
- ah. Lift upper right receptacle cover on the truck and connect 24-volt cable on receptacle.
- ai. Remove two covers from air couplings.
- aj. Install emergency air glad-hand to air coupling.
- ak. Install service air glad-hand to air coupling.

Performance Steps

- al. Install safety chains on hooks from large links on chains.
 - am. Attach electrical cable brackets to hook on both sides of drawbar.
 - an. Unhook two safety chains from trailer and attach to truck clevises.
 - ao. Remove wheel chocks.
4. Uncouple PLS truck from PLS trailer.

WARNING

DO NOT STAND BETWEEN TRAILER DRAWBAR AND TRUCK COUPLER DURING HOOK-UP PROCEDURES TO PREVENT FROM BEING PINNED BETWEEN TRUCK AND TRAILER. SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

WHEELS ON TRAILER MUST BE CHOCKED TO PREVENT TRAILER FROM MOVING DURING HOOK-UP PROCEDURES. SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

- a. Chock wheels of trailer.
- b. Unhook two safety chains from clevises and attach to trailer.
- c. Hook safety chains to chain links.
- d. Remove emergency glad-hand from air coupling and stow on stowage coupler.
- e. Remove service air glad-hand from air coupling and stow on stowage coupler.
- f. Install covers on air couplings.

CAUTION

Both the 12 and 24-volt cables must NOT be connected at the same time. Only one cable can be hooked up during operation or damage to equipment will result.

- g. Remove 24-volt cable from receptacle on truck and close receptacle cover.
- h. Remove 24-volt cable on trailer from receptacle and install cover on receptacle and install cover on receptacle and stow in trailer stowage box.
- i. Remove 24-volt cable on trailer from receptacle and install cover on receptacle and stow in trailer stowage box.
- j. Remove 12-volt cable on truck from receptacle and close receptacle cover.
- k. Remove 12-volt cable on trailer from receptacle and install cover on receptacle and stow in trailer stowage box.
- l. Remove load lock status line from truck receptacle and place on stowage hook.
- m. Install cover to receptacle.
- n. Lock rotation locking pin and check coupler to make sure it will not rotate.

Performance Steps

- o. Lift up locking gate on coupler.
- p. Pull locking lever out while pulling lever back at the same time.
- q. Release locking lever prior to releasing lever, to unlock coupler jaw.

WARNING

DRAWBAR WEIGHS 425 POUNDS, 850 POUNDS WITH DRAWBAR EXTENSION (IF EQUIPPED). DRAWBAR MAY RISE QUICKLY OR FALL SUDDENLY TO THE GROUND WHEN RELEASED FROM COUPLER. DO NOT ALLOW FEET OR BODY TO GET UNDER OR ABOVE DRAWBAR. SERIOUS INJURY OR DEATH TO PERSONNEL MAY RESULT. DO NOT LEAVE DRAWBAR IN ELEVATED POSITION AFTER DISCONNECTING FROM TRUCK. DRAWBAR COULD FALL CAUSING SERIOUS INJURY TO PERSONNEL.

- r. Use air assist valve to apply air pressure to hold drawbar from falling when released from coupler.
- s. Start truck, release parking brake, and slowly pull forward until drawbar releases from coupler.
- t. Apply parking brake and place transmission range selector to Neutral.
- u. Push up on coupler jaw to close.
- v. Close locking gate on coupler.

Evaluation Preparation: Setup: Provide for the Soldier a tactical wheeled vehicle and a pintle-style trailer, ground guide assistance, hearing protection, work gloves, and level ground to operate.

Brief Soldier: You are required to perform a coupling operation with a pintle-connected trailer and a prime mover (2.5-ton or larger tactical wheeled vehicle). This operation will involve you coupling and then uncoupling the trailer from the prime mover. All steps must be performed successfully in order to pass this task. Entire operation must be performed without injury to personnel or damage to equipment.

Performance Measures

GO NO-GO

1. Coupled vehicle to trailer (for vehicle-trailer combination other than PLS).
 - a. Removed chock blocks from vehicle tires.
 - b. Started vehicle (see vehicle -10 series TM).
 - c. Following visual hand signals from ground guide, aligned vehicle with trailer and slowly back vehicle until pintle is adjacent to drawbar ring.
 - d. Removed pintle lock pin and open pintle.
 - e. Released trailer hand brake.
 - f. Moved trailer as required (with assistance) to engage drawbar ring in pintle.
 - g. Closed pintle and installed pintle lock pin.
 - h. Crossed safety chains under drawbar ring and attached to towing vehicle eye bolts.
 - i. Connected intervehicular cable to towing vehicle receptacle.
 - j. Connected service air hose to towing vehicle glad-hand. If coupling an M105A2C, also connected emergency air hose to towing vehicle glad-hand.

Performance Measures**GO NO-GO**

- k. Turned on towing vehicle air valves to apply vacuum or pressure as required.
 - l. Pulled out release handle and at same time, begin raising adjustable caster assembly. Let go of release handle while raising adjustable caster assembly.
 - m. Raised adjustable caster assembly until release handle locks adjustable caster assembly in position. Ensured the release handle is fully engaged.
- 2. Uncoupled the trailer from vehicle (for vehicle-trailer combination other than PLS). —— ——
 - a. Supported adjustable caster assembly and at the same time pull out release handle. Lowered adjustable caster assembly. Ensured that release handle is fully engaged.
 - b. Disconnected air hose from towing vehicle glad-hand. If uncoupling from an M105A2C, also disconnected emergency air hose from towing vehicle glad-hand.
 - c. Disconnected intervehicular cable from towing vehicle receptacle and stow on trailer.
 - d. Disconnected safety chains from towing vehicle eye bolts and stow on trailer.
 - e. Ensured trailer brakes are set or trailer wheel is chocked prior to disconnecting trailer from vehicle.
 - f. Removed pintle lock pin and open pintle.
 - g. With assistance, moved trailer as required to disengage drawbar ring from pintle. Apply trailer handbrakes.
 - h. Moved vehicle a safe distance from trailer.
- 3. Coupled PLS truck to PLS trailer (PLS/HEMTT-LHS systems only). —— ——
 - a. Chocked wheels of trailer.
 - b. Adjusted drawbar if necessary.
 - c. Started truck (see vehicle TM) and following ground guide hand and arm signals, back truck to within 6 inches from end of drawbar.
 - d. Applied parking brake and place transmission range selector in Neutral. Shut off truck.
 - e. Locked rotation locking pin on coupler.
 - f. Lifted up locking gate on coupler.
 - g. Pulled locking lever out and pull lever back at the same time to open coupler jaw.
 - h. Removed cover from emergency air glad-hand.
 - i. Connected charging hose glad-hand to emergency air glad-hand.
 - j. Removed cover from charging hose connector.
 - k. Removed cover from trailer quick disconnect.
 - l. Connected charging hose connector to trailer quick disconnect.
 - m. With truck running, pushed trailer air supply valve on dash to charge No. 1 air tank.
 - n. When fully charged (three to five minutes), released trailer air supply valve on dash and shutoff engine.
 - o. Disconnected charging hose connector from trailer quick disconnect.

Performance Measures

GO **NO-GO**

- s. Started truck, release parking brake and slowly pull forward until drawbar releases from coupler.
- t. Applied parking brake and place transmission range selector to Neutral.
- u. Pushed up on coupler jaw to close.
- v. Closed locking gate on coupler.

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.

References

Required

Related

TM 9-2320-304-14&P
 TM 9-2320-364-10
 TM 9-2320-365-10
 TM 9-2320-366-10-1
 TM 9-2320-366-10-2
 TM 9-2330-213-14&P
 TM 9-2330-385-14

Operate Vehicle-Mounted Crane

551-88M-1663

Conditions: Given a vehicle equipped with a vehicle-mounted crane on which before-operation PMCS has been performed, applicable TM, flat surface in which to operate, and directions/hand signals from another Soldier.

Standards: Setup vehicle-mounted crane for operation to include outriggers, as applicable. Operate the crane while following visual hand and arm signals. Prepare crane and outriggers, as applicable, for travel. All crane operations must be performed without injury to personnel or damage to any equipment or load.

Performance Steps

1. Start vehicle engine (except LMTV).
 - a. M1084/1086 MTV with MHE. Refer to TM 9-2320-366-10-1.
 - b. M977 (HEMTT) crane-mounted vehicles. Refer to TM 9-2320-279-10-1.
 - c. M1074/M1075 (PLS) crane-mounted vehicles. Refer to TM 9-2320-364-10.
2. Prepare crane for use.
 - a. M1084/1086 (MTV) vehicles. Refer to TM 9-2320-366-10-1.
 - b. M977/M985 (HEMTT) vehicles. Refer to TM 9-2320-279-10-1.
 - c. M1074/M1075 (PLS) vehicles. Refer to TM 9-2320-364-10.
3. Operate crane following visual hand and arm signals for movement.
 - a. M1084/1086 (MTV) vehicles with MHE. Refer to TM 9-2320-366-10-1.
 - b. M977/M985 (HEMTT) vehicles. Refer to TM 9-2320-279-10-1.
 - c. M1074/M1075 (PLS) vehicles. Refer to TM 9-2320-364-10.
4. Stow the crane for travel.
 - a. M1084/1086 (MTV) vehicles. Refer to TM 9-2320-366-10-1.
 - b. M977/M985 (HEMTT) vehicles. Refer to TM 9-2320-279-10-1.
 - c. M1074/M1075 (PLS) vehicles. Refer to TM 9-2320-364-10.
5. Shutdown vehicle engine (except LMTV/MTV).
 - a. M1084/1086 (MTV) vehicles. Refer to TM 9-2320-366-10-1.
 - b. M977/M985 (HEMTT) vehicles. Refer to TM 9-2320-279-10-1.
 - c. M1074/M1075 (PLS) vehicles. Refer to TM 9-2320-364-10.

Evaluation Preparation: Setup: Provide Soldier with a vehicle equipped with a vehicle-mounted crane on which before-operation PMCS has been performed, applicable TM, flat surface in which to operate, and directions/hands signals from another person.

Brief Soldier: You are to prepare a vehicle-mounted crane for operation and operate the crane while following hand and arm signals given by another Soldier. Then stow crane for travel.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Started vehicle engine.	_____	_____
2. Prepared crane for operation.	_____	_____
3. Operated crane while following visual hand and arm signals.	_____	_____
4. Stowed crane for travel.	_____	_____
5. Shutdown vehicle engine.	_____	_____

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.

References**Required**

TM 9-2320-279-10-1

TM 9-2320-364-10

TM 9-2320-366-10-1

Related

Subject Area 5: Transportation of Cargo

Transport General Cargo in Trailer/Semitrailer 551-88M-1380

Conditions: Provided a mission-ready tactical cargo vehicle with pintle-connected trailer OR a truck tractor-semitrailer combination, load of cargo to transport, DD Form 1384 (Transportation Control and Movement Document) (TCMD) (as applicable), and mission guidance to transport cargo to a destination.

Special Conditions: A mission-ready vehicle is defined as a vehicle with or without a trailer or semitrailer that has been completely inspected using the PMCS tables in the applicable TM and found to have no faults or deficiencies that would prevent dispatch, equipment records folder is present and contains: completed DA Form 5988-E (Equipment Inspection Maintenance Worksheet), DD Form 518 (Accident-Identification Card), SF Form 91 (Motor Vehicle Accident Report), DA Form 5987-E (Motor Equipment Dispatch) (active vehicle dispatch with appropriate signatures), load documentation required, vehicle BII, and safety items.

Standards: You have to load or assist in loading the cargo onto the trailer/semitrailer ensuring the weight and cube limits are not to be exceeded and that cargo is securely tied down; transport the cargo to the destination safely; and unload or assist in unloading cargo at destination. All phases of cargo movement are to be completed without injury to personnel or damage to vehicle/trailer/semitrailer or cargo being transported.

Performance Steps

1. Load cargo onto trailer/semitrailer.
 - a. Ensure that vehicle and trailer/semitrailer is chocked and hand brake is set.
 - b. Prepare trailer/semitrailer for loading operation.
 - (1) Ensure adequate tiedown materials are on hand and prepared for use.
 - (2) Remove canvas tarpaulin, or other cover if installed.
 - (3) Check trailer/semitrailer bed and ensure cargo area is clear.
 - (4) Remove any sideboards as necessary, if installed.
 - (5) If using MHE, prepare device for operation (see applicable TM).
 - c. Place heavy items on the bottom and lighter cargo on top.
 - d. If loading a payload vehicle(s) onto a semitrailer, a ground guide must slowly guide vehicle into position.
 - e. Distribute heavy cargo as evenly as possible over the bed to maintain a safe weight distribution.
 - f. Keep the load as low as possible. A high load may make the vehicle difficult to control and may cause it to overturn.
 - g. Fill the cargo space to the maximum weight allowable.
 - h. For multi-stop loads, separate cargo by destination for easy offloading.
 - i. If possible, load items of uniform size and weight together.
 - j. Load drums and barrels either upright or on their sides. If blocked on their sides, their length should be parallel to the sides of the truck.
2. Secure cargo onto trailer/semitrailer.
 - a. Block and brace cargo with lumber or other materials to keep the load from shifting or falling off the vehicle while en route.
 - b. Block crates, boxes, and barrels to keep them from shifting en route.

Performance Steps

- c. Use crib blocking whenever possible. It need not be nailed to the floor or sides if placed tightly against the cargo to reduce damage to the floor and sideboards of the vehicle.
- d. If a gap exists between pipes or lumber and the end of the trailer, block the load with a gate constructed with 4X4 inch boards to prevent it from slipping.
- e. All lumber used for blocking must be free of knots and strong enough to provide a rigid and stable support for the load en route.
- f. Tiedown the load with available tiedown materials.
 - (1) Use tiedown straps for general cargo or large component items.
 - (2) Use tiedown chains or wire rope and turnbuckles or loadbinders as needed for tiedown of vehicles, CONEXs, or MILVANS that are not connected directly to the transporter.

WARNING

ENSURE THAT BOTH THE WEIGHT LIMITATIONS OF THE TIEDOWN STRAPS (OR OTHER DEVICES USED) AND THE TIEDOWN ANCHORS ON THE VEHICLE CARGO BED ARE NOT EXCEEDED OR INJURY OR DEATH TO PERSONNEL MAY OCCUR OR DAMAGE TO EQUIPMENT MAY RESULT.

- g. When the load must be protected from the weather, pad the corners of boxes or crates to prevent damage to the tarpaulin.
 - h. Lash the load with a tarpaulin and rope as necessary to prevent pilferage, weather damage, or casual observation if sensitive.
3. Deliver cargo on trailer/semitrailer.
- a. Obey all traffic laws and rules of the road.
 - b. Do not make quick starts or stops.
 - c. Slow down on curves or rough roadways.
 - d. Keep watch on load and tarp using mirrors and rear windows.
 - e. Monitor load during movement for possible shifting.
 - f. During halts, check load for security and shifting.
4. Unload cargo from trailer/semitrailer.
- a. Position and chock vehicle to prevent movement during unloading.
 - b. Prepare vehicle for unloading.
 - c. Unlash the load by loosening then removing all lashing ropes from canvas.
 - d. Remove all blocking and bracing materials.
 - e. Remove all tiedown materials taking precautions that items may have shifted during movement.
 - f. Unload or assist in unloading the cargo. If MHE is used, and the vehicle driver is the MHE operator, adhere to all SAFETY and WARNING statements in the applicable MHE operator's manual. If assisting by guiding MHE operator or holding guide-rope, vehicle operator should pay close attention to the operation and adhere to all SAFETY restrictions.
 - g. Transfer all required documentation associated with the cargo to the receiving unit or element as necessary. Ensure the relinquishment of responsibilities regarding the cargo load once load has been offloaded.

Evaluation Preparation: Setup: Provide for the Soldier a cargo vehicle with trailer or a truck tractor with semitrailer, appropriate TM, BII, DD Form 1384, a pen, tarpaulin, two 60 to 70 foot ropes, cargo, and personnel to load cargo. Brief Soldier: Tell the Soldier to transport general cargo with given equipment to destination.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Loaded cargo onto trailer/semitrailer.	_____	_____
2. Secured cargo onto trailer/semitrailer.	_____	_____
3. Delivered cargo on trailer/semitrailer.	_____	_____
4. Unloaded cargo from trailer/semitrailer.	_____	_____

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.

References

Required

DA FORM 5987-E
 DA FORM 5988-E
 DD FORM 518
 DD FORM 1384
 SF FORM 91
 TM 9-2320-366-10-1
 TM 9-2320-366-10-2
 TM 9-2330-358-14&P
 TM 9-2330-359-14&P

Related

FM 21-305
 FM 55-30

Perform Payload Vehicle Loading/Unloading Operations With a Semitrailer**551-88M-1382**

Conditions: You are the operator of a truck-tractor semitrailer combination tasked to transport a payload vehicle. The semitrailer has been properly parked and chocked against an alley or loading dock for this operation. You are provided a tractor-semitrailer combination, payload vehicle with operator, work gloves, all tiedown equipment to include chains and loadbinders, an alley dock or loading ramp, and load measuring tools (either a 25-foot retractable tape measure, or a telescoping pole with measuring graduations up to 25 feet).

Special Conditions: Truck tractor, semitrailer, payload vehicle, and all tiedown devices have been inspected and found to be mission-ready.

Standards: You are to load and position a payload vehicle onto a flatbed semitrailer by guiding payload vehicle operator using visual hand and arm signals. With proper tiedown configuration, secure the payload vehicle to the semitrailer for transport and measure the height and width of load. Once the payload configuration has been inspected by supervisor and deemed safe for transport and meets height and width restrictions, you are to remove all tiedown devices and unload the payload vehicle from the semitrailer by providing hand and arm visual signals to payload vehicle operator. All procedures must be performed without injury to personnel or damage to equipment.

Performance Steps

1. Prepare for loading operations.
 - a. Guide payload vehicle into position on loading dock in a line that is centered both on the payload vehicle and the semitrailer.
 - b. Remove semitrailer sideboards (if installed).
 - c. Place centering marks on the semitrailer to use as a reference when positioning payload vehicle.
 - d. Clean semitrailer of all obstructions, nails, or any foreign objects that may interfere with payload vehicle.
 - e. Prepare payload vehicle for loading.
 - (1) Reduce the payload outer dimensions by folding in outside rearview mirrors, lowering or removing antenna(s), and removing crew-served weapon (if mounted).
 - (2) Check payload vehicle canvas to ensure all loose ends are secured. Canvas may have to be removed if it interferes with height-width restrictions.
 - (3) If payload vehicle is combat-loaded, with assistance from payload vehicle operator, ensure all items are secured on inside of vehicle or removed prior to transport.

WARNING

ENSURE ALL TIRES ARE INFLATED TO PROPER PRESSURE AND THAT NO TIRE IS LEAKING. IF ANY TIRE PREMATURELY DEFLATES DURING MOVEMENT, THE PAYLOAD VEHICLE WILL BECOME UNSTABLE AND MAY SHIFT OR FALL FROM SEMITRAILER, CAUSING SERIOUS INJURY OR DEATH TO PERSONNEL AND SEVERE DAMAGE TO EQUIPMENT.

Performance Steps

- (4) Have payload vehicle operator check tire pressure on all tires to ensure proper inflation.
- (5) Check total load of payload vehicle with combat-load (or not) to ensure that it does not exceed load capacity of semitrailer before loading.
- (6) Ensure payload vehicle center of gravity is clearly marked on both sides (to include load if combat-loaded).

2. Position payload vehicle onto semitrailer.

CAUTION

Ensure that weight of payload vehicle (whether combat-loaded or not) does not exceed load capacity of semitrailer. Failure to comply may damage the semitrailer.

- a. Position yourself on the ground to the driver side of the semitrailer, in a clear line-of-sight to the payload vehicle operator, to guide the payload vehicle onto the semitrailer.
 - b. Slowly guide payload vehicle onto semitrailer by providing appropriate hand and arm visual signals to payload vehicle operator.
 - c. Note shifting of weight to semitrailer when payload vehicle's weight is added.
 - d. Make hand and arm signal adjustments to center payload vehicle onto semitrailer along the centerline of the semitrailer.
 - e. Stop payload vehicle movement if vehicle moves off center line of semitrailer to either side, makes adjustments as necessary.
 - f. Once centering marks are aligned on both the semitrailer and the payload vehicle, stop payload vehicle movement.
 - g. Have payload vehicle operator shutdown vehicle and set parking brake.
- ### 3. Secure payload vehicle onto semitrailer.
- a. Emplace wheel chocks.
 - b. Using a combination of chains and loadbinders, attach payload vehicle to tiedown points on edge of semitrailer and tiedown clevises of payload vehicle.
 - c. Use a double set of tiedowns on rear of payload vehicle to compensate for inertial forces in braking during movement.
 - d. Tighten all loadbinders sufficiently to prevent payload vehicle from shifting during movement.
 - e. Secure all loose ends of tiedowns by string, rope, or metal wire.
- ### 4. Measure the height and width of load before movement.
- a. Use suitable measuring device such as a 25-foot retractable tape or a telescoping pole with graduated measurement.
 - b. Double check to ensure that ground from which to measure is level in front of semitrailer wheels (not higher or lower).
 - c. Extend measuring device from the ground next to side of semitrailer to a point of the highest part of the payload vehicle. This distance must NOT exceed 13 feet, 5 inches in CONUS and 13 feet, 1 inch OCONUS. Take a minimum of two measurements to ensure accuracy and record measurement.

Performance Steps

- d. If load exceeds limit in item 4c above, reject or adjust load to meet limitations.
 - e. Measure the width of load by extending measuring device to the extreme outside limits of load and record measurement.
 - f. Provide load measurements to supervisor for comparison to route restrictions.
5. Prepare for unloading of payload vehicle.

WARNING

EXTREME CAUTION SHOULD BE TAKEN TO ENSURE THAT PAYLOAD VEHICLE HAS NOT DANGEROUSLY SHIFTED DURING MOVEMENT PRIOR TO LOOSENING ANY TIEDOWNS. FAILURE TO COMPLY MAY RESULT IN PAYLOAD VEHICLE FALLING FROM SEMITRAILER CAUSING SERIOUS INJURY OR DEATH TO PERSONNEL OR SEVERE DAMAGE TO EQUIPMENT.

- a. Visually check to ensure that payload vehicle has not shifted prior to loosening of tiedowns. If shifting is suspected, refer to supervisor for guidance.
 - b. With assistance from payload vehicle operator, remove all tiedown devices from payload vehicle.
 - c. Direct payload vehicle operator to mount vehicle and prepare for movement (includes vehicle starting procedures and pressurization of vehicle brake reservoirs).
 - d. Remove wheel chocks.
 - e. Position yourself on the ground, in a clear line of sight on driver-side of semitrailer.
6. Unload payload vehicle from semitrailer.
- a. Provide hand and arm visual signals to payload vehicle operator to guide payload vehicle off the semitrailer and onto the loading dock.
 - b. Signals payload vehicle operator to stop vehicle once in position on loading dock.

Evaluation Preparation: Setup - Provide for the Soldier a coupled truck tractor with semitrailer combination to include all necessary tiedown devices, chock blocks, load measuring tools, hearing protection, work gloves, alley or loading dock, and payload vehicle with operator.

Brief Soldier - You are required to load the payload vehicle onto the semitrailer using the loading dock by providing the payload vehicle operator the necessary visual hand and arm signals. You are to position yourself in such a manner as to afford a clear field of view at all times while guiding. You are to position the payload vehicle properly using the centerline of the semitrailer with the centerline of the payload vehicle and guide the payload vehicle forward until properly positioned for transport. Once positioned, you are to secure the payload vehicle to the semitrailer using available tiedown devices. Once secure, you are to measure the height and width of the payload and semitrailer to ensure it does not exceed route restrictions. Once measurements are taken, you are to provide this information to your supervisor. Once supervisor has checked load and height/width restrictions and approved for movement, you are to remove all tiedown devices and guide payload vehicle from the semitrailer back onto the loading dock.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Prepared for loading operations.	—	—
2. Positioned payload vehicle onto semitrailer.	—	—
3. Secured payload vehicle onto semitrailer.	—	—
4. Measured the height and width of load before movement.	—	—
5. Prepared for unloading of payload vehicle from semitrailer.	—	—
6. Unloaded payload vehicle from semitrailer.	—	—

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.

References

Required

TM 9-2320-303-10

TM 9-2330-359-14&P

Related

Perform Tiedown Procedures

551-88M-1411

Conditions: Given either a 5-ton cargo vehicle loaded with general cargo, a tractor-semitrailer combination loaded with a vehicle payload, or a HEMTT cargo vehicle loaded with ammunition, and all necessary basic issue items, tools, and tiedown materials capable of securing the load to the vehicle. The vehicle or vehicle combination has been properly parked for loading/unloading operations and chocked to prevent movement. The load has been placed onto the vehicle but has not been secured. All necessary pre-use inspections have been performed on vehicle and/or trailer/semitrailer.

Standards: Ensure proper placement of the load on the vehicle, inspect the tiedown materials to be used and secure the load by properly blocking and bracing (if needed) and using the proper tiedown configuration. The load is to be inspected by supervisor or other proper authority and deemed secure and ready for movement.

Performance Steps

1. Ensure load is properly positioned for tiedown (see Figure 3-25a through Figure 3-25d).

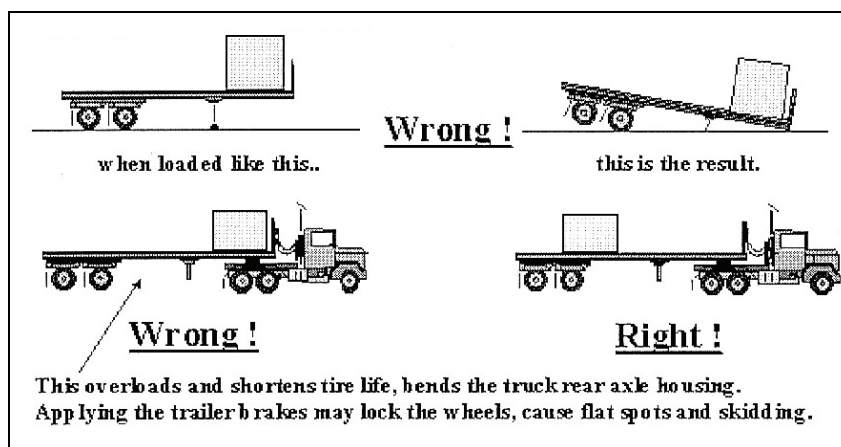


Figure 3-25a. Load Balancing

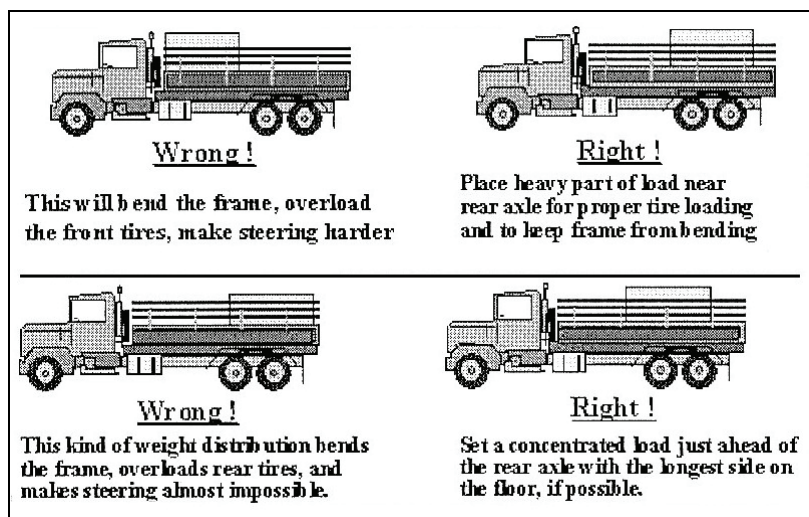


Figure 3-25b. Load Balancing

Performance Steps

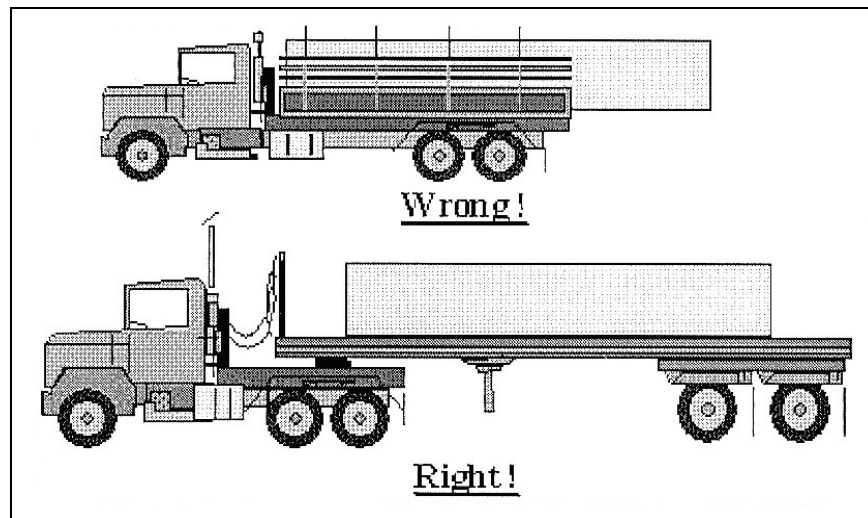


Figure 3-25c. Load Balancing

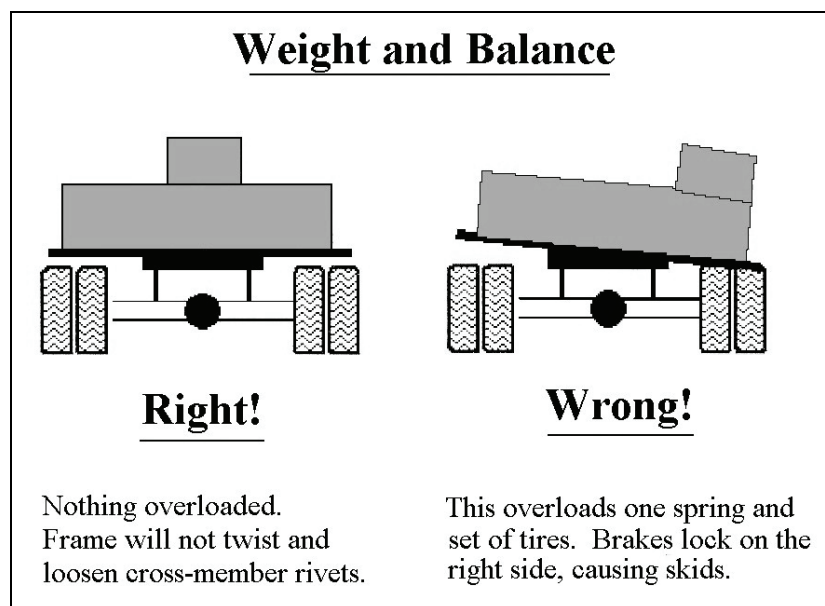


Figure 3-25d. Load Balancing

- a. Check configuration of general cargo load.
 - (1) Ensure that cargo is placed on vehicle with the heaviest items on the bottom and spread evenly across the vehicle both longitudinally and laterally.
 - (2) Ensure items are not stacked too high to allow for the lowest center of gravity.
 - (3) If the load extends more than 4 feet beyond the end of the bed, ensure that a red flag (measuring not less than 12 x 12 inch square) is attached to the load. During nighttime, use a red light (if tactical situation permits).
 - (4) Check vehicle data plate and TM to ensure that vehicle weight and cube limitations have not been exceeded.

Performance Steps

- b. Check configuration of ammunition (on HEMTT and PLS flatrack).
 - (1) Ensure that cargo is placed on vehicle/flatrack with the heaviest items on the bottom and spread evenly across the vehicle both longitudinally and laterally.
 - (2) Ensure items are not stacked too high to allow for the lowest center of gravity.
 - (3) Ensure that load does not extend past vehicle cargo area perimeters and that cargo truck tailgate is raised and locked in place.
 - (4) Check vehicle data plate and TM to ensure that vehicle weight and cube limitations have not been exceeded.
- c. Check configuration of vehicle payload.
 - (1) Ensure that payload vehicle center of gravity is located over the desired point on the semitrailer. Center of gravity marking should be legible on both sides of payload vehicle.
 - (2) Ensure that all shackles are on the vehicle.

CAUTION

Do not use bumperettes, axles, towing pintles, or towing hooks as points of attachment for chains.

- (3) Remove or band canvas and bows to prevent wind damage (as applicable).
 - (4) Protect windshield of payload vehicle if needed.
 - (5) Ensure that fuel tank of payload vehicle is no more than three-quarters full.
 - (6) Reduce payload vehicle to lowest height configuration consistent with the operational requirement and unit SOP.
 - (7) Secure any materials or equipment loaded in the beds of cargo vehicles by banding, chains, or cargo straps.
 - (8) Remove all sensitive or pilferable items that cannot be secured.
- 2. Inspect tiedown materials (see Figure 3-26 and Figure 3-27).
 - a. Chains and load binders (used for vehicle payload). Inspect chains including the hooks, at least once a month. Inspect those that are used for heavy and continuous loading more frequently. Give particular attention to the small radius fillets at the neck of the hooks for any deviation from the original inner arc. Examine each link and hook for small dents and cracks, sharp nicks and cuts, worn surfaces, and distortions. Replace any of those that show any of these weaknesses. If several links are stretched or distorted, do not use the chain; it probably was overloaded or hooked improperly, which weakened the entire chain. Inspect load binders for structural cracks in the metal. Inspect chain and hooks using same criteria cited above; if ratchet type, ensure mechanism works freely without binding. Inspect lever pivot mechanism for excessive signs of wear or stress on pin. Do not use if any portion of the load binders possesses any of the above signs of wear or misuse.
 - b. Web tiedown straps (used for general cargo and ammunition tiedown). Before each use, straps should be inspected for burns, tears, punctures, cuts, caustic damage, oil or grease contamination, and fraying or broken stitches. Inspect metal parts for improper operation, corrosion, cracks, or distortion. If any of these conditions exist, the tiedown should be replaced. They should not be used for any mode of transport if they have been damaged. No strength testing of straps will be made.

Performance Steps

- c. Blocking and bracing materials (as needed, depending on platform and load). Ensure that if needed, the materials are of a size and configuration to support the tiedown of the load. Use 4X4 materials if available. All lumber used for blocking must be free of knots and strong enough to provide a rigid and stable support for the load en route.

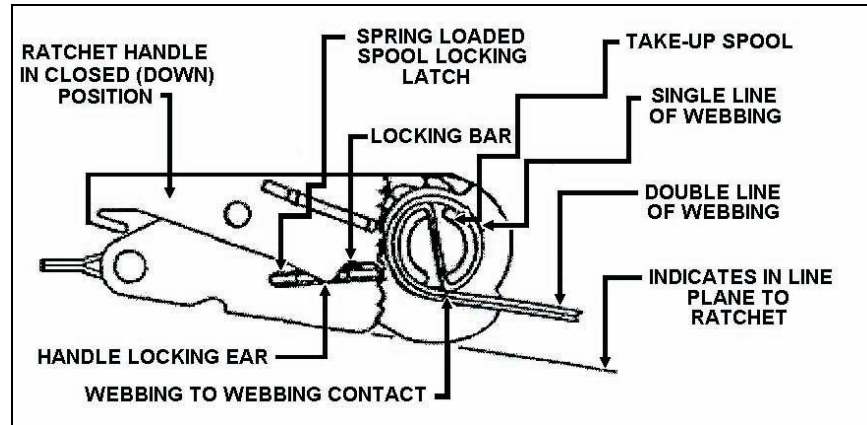


Figure 3-26. Web-to-Web Contact

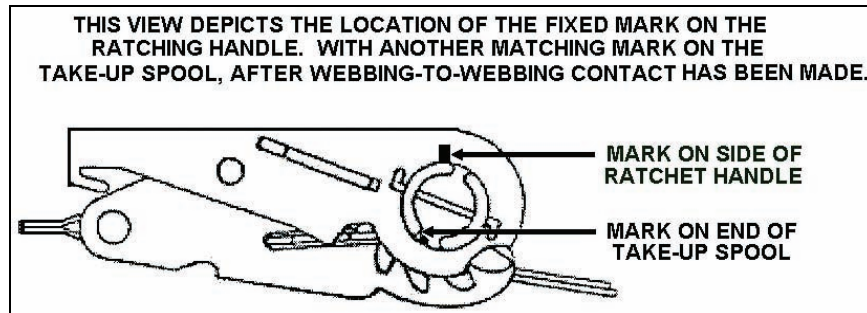


Figure 3-27. Locking Latches

3. Secure general cargo to bed of 5-ton cargo truck using web tiedown straps (see Figure 3-28 and Figure 3-29).

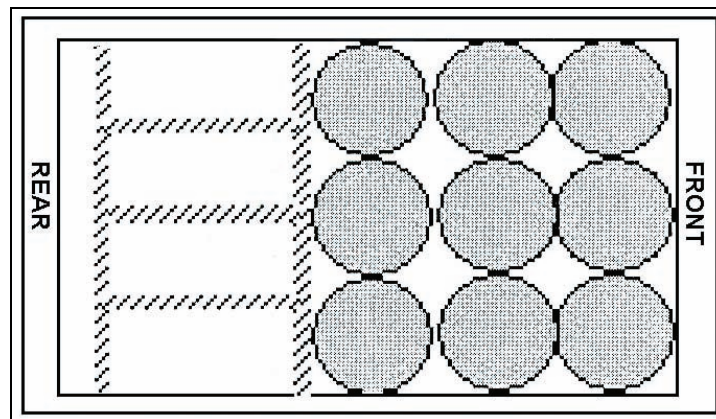


Figure 3-28. Blocking and Bracing

Performance Steps

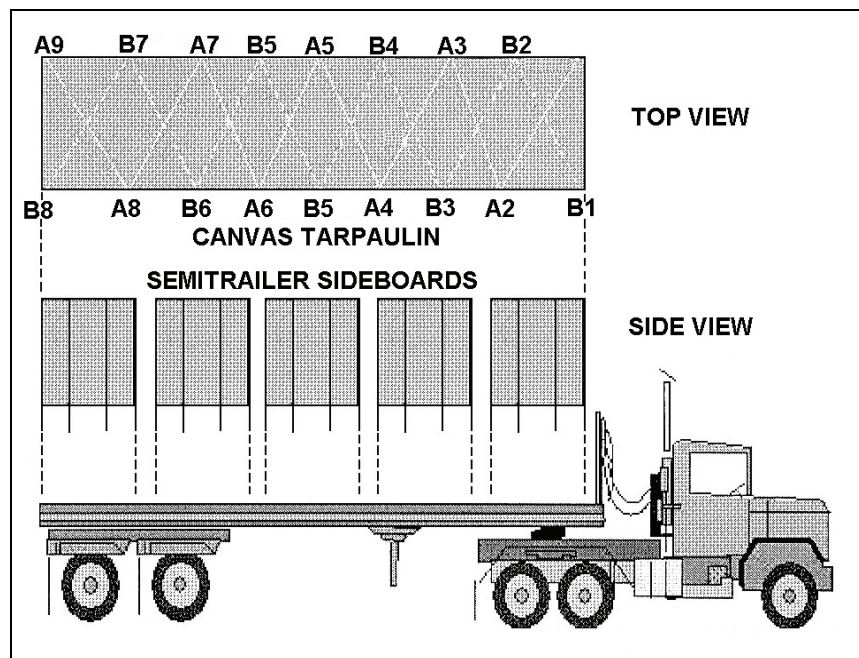


Figure 3-29. Load Lashing Sample

NOTE: Not all loads will require blocking and bracing. Blocking and bracing is used for applications involving a partially loaded vehicle to prevent from shifting.

- a. Block and brace load as needed.
- b. Attach and secure all necessary web tiedown straps.
 - (1) Ensure all strap hooks are completely engaged and safety latches are completely closed around tiedown anchor point.
 - (2) Ensure that strap is tensioned to form at least 1 1/2 turns on the take-up spool. This is accomplished after web-to-web contact has been made on the take-up spool. To prevent movement of cargo, each tiedown must be tightened until about equal tension is applied throughout the tiedown arrangement.
 - (3) After tensioning is completed, the take-up spool-locking latch must be checked to ensure that it is fully seated at both ends of the spool in the matching locking notches. The scuff sleeve may have to be removed to allow tightening of tiedowns. Secure loose ends of straps by suitable means.
 - (4) Reinforce sharp edges of cargo with suitable materials to prevent both crushing edges of the load when strap is tensioned and to prevent slicing into strap webbing.
- c. Lash the load and canvas to the truck.

NOTE: Load lashing is done to protect the load and prevent casual observation for sensitive items.

- (1) Fasten the end of one rope to one of the front lash hooks or rings (A1).
- (2) Pass the rope diagonally across the top of the load through or under the second rope support on the opposite side (A2).

Performance Steps

- (3) Pass the rope diagonally back across the top of the load through or under the third rope support (A3). Pull the rope tight.
- (4) Continue this process until you reach the rear of the vehicle. Secure the rope.
- (5) With the second rope, repeat the entire process, starting at the front lash hook or ring (B1).

4. Secure ammunition to cargo bed of HEMTT (M977/M985) using web straps.

WARNING

BE SURE SIDE PANELS ARE COMPLETELY LOWERED. SIDE PANELS CAN SLIDE OFF HINGE PIN WHEN VEHICLE IS PARKED ON GRADE. FALLING SIDE PANEL CAN CAUSE SERIOUS PERSONAL INJURY.

- a. Block and brace the load as needed.
- b. Lower cargo side panels to gain access to cargo tiedown anchors as needed.
- c. Attach all web strap tiedown to load.
 - (1) Ensure all strap hooks are completely engaged and safety latches are completely closed around tiedown anchor point.
 - (2) Ensure that strap is tensioned to form at least 1 1/2 turns on the take-up spool. This is accomplished after web-to-web contact has been made on the take-up spool. To prevent movement of cargo, each tiedown must be tightened until about equal tension is applied throughout the tiedown arrangement.
 - (3) After tensioning is completed, the take-up spool-locking latch must be checked to ensure that it is fully seated at both ends of the spool in the matching locking notches. The scuff sleeve may have to be removed to allow tightening of tiedowns. Secure loose ends of straps by suitable means.
 - (4) Reinforce sharp edges of cargo with suitable materials to prevent both crushing edges of the load when strap is tensioned and to prevent slicing into strap webbing.
- d. Lash the load and canvas to the truck.
 - (1) Fasten the end of one rope to one of the front lash hooks or rings (A1).
 - (2) Pass the rope diagonally across the top of the load through or under the second rope support on the opposite side (A2).
 - (3) Pass the rope diagonally back across the top of the load through or under the third rope support (A3). Pull the rope tight.
 - (4) Continue this process until you reach the rear of the vehicle. Secure the rope.
 - (5) With the second rope, repeat the entire process, starting at the front lash hook or ring (B1).

Performance Steps

5. Secure ammunition to PLS flatrack using web straps (see Figure 3-30).

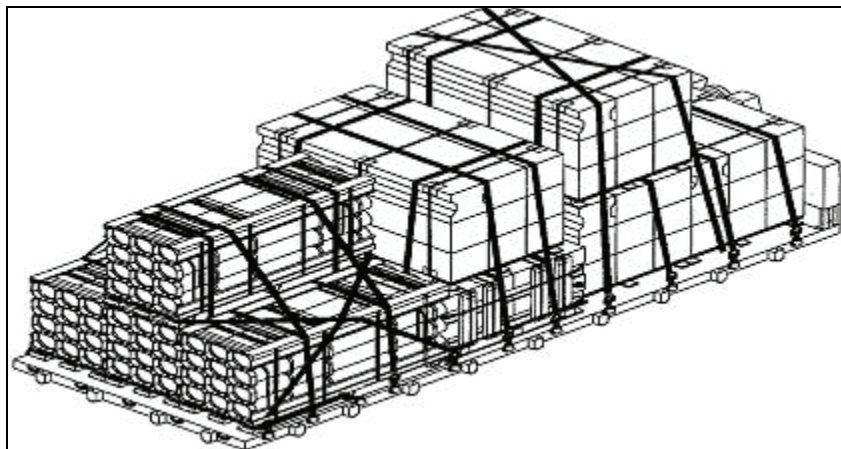


Figure 3-30. Tiedown on Flatrack

NOTE: The M1077 and M1 flatracks are applicable to this step. Web straps are used to secure boxes, pallets, and off shaped cargo.

NOTE: All items, no matter how small, should be secured in place.

- a. Refer to flatrack data plate for particular characteristics regarding the flatrack you are using.
- b. Use small tiedown rings for cargo no heavier than 10,000 pounds.
- c. Use large tiedown rings for cargo no heavier than 25,000 pounds.
- d. Check for proper center of gravity (CG) mark on flatrack and use as basis for load positioning. CG markings on the M1077 and M1 are different.
 - (1) CG for the M1077 is 106 inches from front edge of flatrack.
 - (2) CG for the M1 is 116 inches from front edge of flatrack.
- e. Attach all web strap tiedown to load.
 - (1) Ensure all strap hooks are completely engaged and safety latches are completely closed around tiedown anchor point.
 - (2) Ensure that strap is tensioned to form at least 1 1/2 turns on the take-up spool. This is accomplished after web-to-web contact has been made on the take-up spool. To prevent movement of cargo, each tiedown must be tightened until about equal tension is applied throughout the tiedown arrangement.
 - (3) After tensioning is completed, the take-up spool-locking latch must be checked to ensure that it is fully seated at both ends of the spool in the matching locking notches. The scuff sleeve may have to be removed to allow tightening of tiedowns. Secure loose ends of straps by suitable means.
 - (4) Reinforce sharp edges of cargo with suitable materials to prevent both crushing edges of the load when strap is tensioned and to prevent slicing into strap webbing.

Performance Steps

WARNING

EXTREMELY HAZARDOUS HANDLING BEHAVIOR CAN OCCUR IF PAYLOADS NEAR THE GROSS LOAD RATING ARE LOADED IN SUCH A WAY THAT THEIR CG FALLS REARWARD OF THE LONGITUDINAL CENTER OF THE FLATRACK.

NOTE: Cargo such as boxes, pallets, and odd shaped cargo should be loaded as far forward and as low as possible on the flatrack.

6. Secure payload vehicle to semitrailer using load binders and chains (general procedures applicable to M872 semitrailers) (see Figure 3-31).

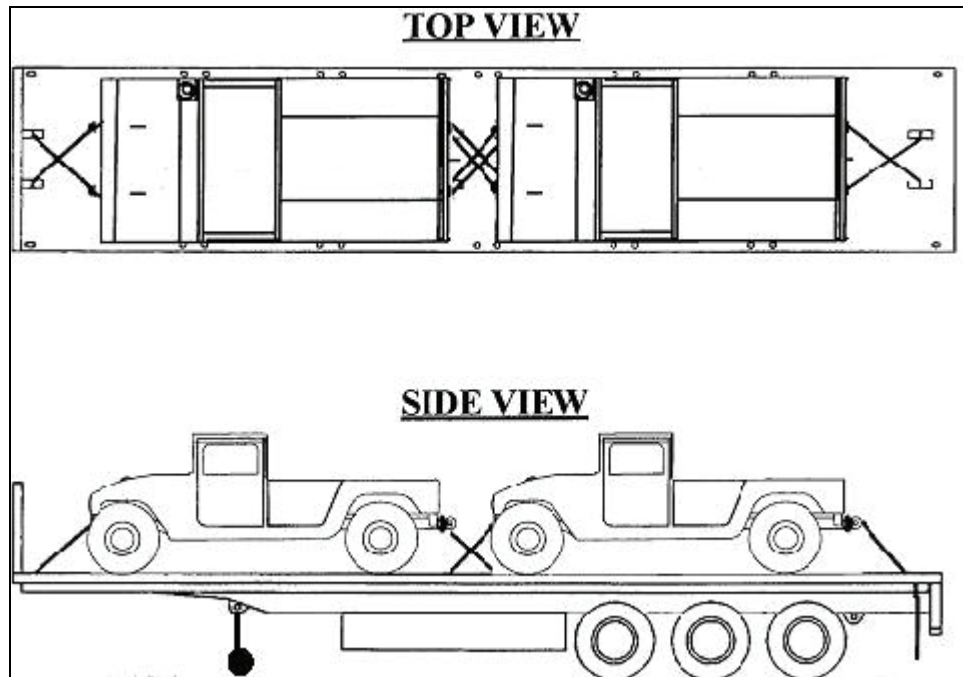


Figure 3-31. Vehicle Payload on M872 Semitrailer

- a. Emplace chock blocks as necessary.
- b. Adhere to all safety issues concerning chains and load binders.
 - (1) Failure to use load binder properly may result in serious injury or even death.
 - (2) Do not operate load binder while standing on the load.
 - (3) Move handle with caution. It may whip - keep body clear.
 - (4) Keep yourself out of the path of the moving handle.
 - (5) You must be familiar with state and federal regulations regarding size and number of chain systems required for securing loads on trucks.
 - (6) Always consider the safety of nearby workers as well as yourself when using load binders.
 - (7) While under tension, load binders must not bear against an object.

Performance Steps**WARNINGS**

USE CAUTION WHEN MOVING AROUND LOAD ON SEMITRAILER. A FALL FROM THE SEMITRAILER COULD CAUSE SERIOUS INJURY.

NEVER USE A CHEATER PIPE OR HANDLE EXTENDER TO RELEASE HANDLE. USE A STEEL BAR AND PRY UNDER THE HANDLE AND STAY OUT OF THE PATH OF HANDLE AS IT MOVES UPWARD.

- c. Attach chains and load binders to front and rear of vehicle.

NOTE: It is not possible to illustrate all possible configurations in this step of tying down a vehicle on the M872 semitrailer. The vehicle included is the M998 HMMWV, 1 1/4 ton vehicle. Similar vehicles may be used as substitute.

- d. The following restrictions apply to this procedure (NTE = Not to Exceed).
- (1) Vehicle payload NTE 12,000 lbs. Use 3/8-inch chain. One chain required for each corner of vehicle.
 - (2) Vehicle payload NTE 17,000 lbs. Use 3/8-inch chain. One chain for left and right front corners of payload vehicle. Two chains required for left and right of rear corners of vehicle.
 - (3) Vehicle payload NTE 19,000 lbs. Use 7/16-inch chain. One chain for each front corner of vehicle payload. Two chains required for left and right rear corners of vehicle payload.
 - (4) Vehicle payload NTE 27,000 lbs. Use 7/16-inch chain. One chain for left and right front corners of payload vehicle. Two chains required for left and right rear corners of vehicle payload.
 - (5) Vehicle payload NTE 48,000 lbs. Use 3/4-inch chains. One chain for left and right front corners of payload vehicle. Two chains required for left and right rear corners of vehicle payload.
 - (6) Vehicle payload NTE 67,000 lbs. Use 3/4-inch chains. One chain for left and right front corners of payload vehicle. Two chains required for left and right rear corners of vehicle payload.

CAUTION

All chains are attached to the cargo tiedown rings. DO NOT use the outside stake pockets of the semitrailer for vehicle payloads.

NOTE: Additional chains are required on the rear of the vehicle, because forces seen when braking are higher than when accelerating.

Performance Steps

- e. Use only tiedown provisions on the vehicle to attach chains (refer to 1c(2) above).
- f. Attach load binder hooks to chains so that open part of hook throat faces upward whenever possible. Secure load binder handle by wiring to chain.

Evaluation Preparation: Setup: Provide for the Soldier a loaded 5-ton cargo truck, M977/M985 cargo HEMTT, and a loaded M915/M872 semitrailer combination, web strap tiedown materials, tiedown chains and load binders, work gloves, and blocking and bracing materials as needed.

Brief Soldier: You are required to ensure that the load has been positioned on each vehicle according to its capabilities and limitations and is situated so as not to cause undue wear on the vehicle by being improperly loaded. You are required to inspect all tiedown materials and use only items that pass inspection. You are also required to install the appropriate number of tiedown devices that will adequately secure each load to the vehicle or semitrailer. Your supervisor, upon completion, will evaluate your efforts.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Ensured load was properly positioned for tiedown.	_____	_____
2. Inspected tiedown materials.	_____	_____
3. Secured general cargo to bed of 5-ton cargo truck using web tiedown straps.	_____	_____
4. Secured ammunition to flatrack or CROP using nylon tiedown web straps.	_____	_____
5. Secured ammunition to PLS flatrack using web straps.	_____	_____
6. Secured payload vehicle to semitrailer using load binders and chains.	_____	_____

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.

References

Required	Related
FM 5-125	
FM 21-305	
SDDCTEA PAM 55-20	
TM 9-2320-279-10-1	
TM 9-2320-279-10-2	
TM 9-2320-364-10	
TM 9-2320-365-10	
TM 9-2320-366-10-1	
TM 9-2320-366-10-2	

Conduct Refueling Operations Using Tactical Refueling Vehicles

551-88M-1656

Conditions: Given an M1088 Tractor with M967 tank semitrailer with full or partial load of fuel, basic issue items (BI), grounding and bonding materials, protective clothing and equipment, fire extinguishers, spill containers, appropriate gauging equipment, dispensing log, assistance from another person, vehicle(s) to refuel, level ground, and instructions on amount of fuel to dispense.

Special Conditions: Must have hazardous materials endorsement on operator's license. Possess a fuel handler's card. Refueling operations requires two persons.

Standards: You have successfully emplaced your refueling vehicle, performed all pre-operation safety checks, grounded and bonded properly, refueled designated vehicle(s) or storage area, contained and recovered any spillage, and properly prepared for movement to subsequent locations without violating any safety measures, causing injury to personnel, damage to equipment, or contaminating the environment.

Performance Steps

1. Apply risk management procedures.
 - a. Refer to FM 5-19 and local SOP for guidelines applicable to this procedure. Ensure all aspects of these operations are assessed for the risk involved.
 - b. Fill out the risk assessment worksheet. Notify chain-of-command if assessment determines requirement for approval from higher authority.
2. Perform before-operation preparations.

WARNING

FREQUENT INSPECTION OF EQUIPMENT, SAFETY DEVICES, AND WORKING AREAS MUST BE PERFORMED TO ENSURE PERSONAL AND OPERATIONAL SAFETY AND TO CORRECT POTENTIAL OR ACTUAL HAZARDS. THE SEMITRAILER MUST NOT BE OPERATED IF ANY OF THE FOLLOWING CONDITIONS EXIST.

- a. Fuel leaks.
- b. Damage to lighting fixtures, wiring or electrical conduits, or lights inoperative.
- c. Damage to towing vehicle or semitrailer.
- d. Primary or parking brake systems inoperative.
- e. Vents plugged, inoperative, or removed.

NOTE: Pressure, vacuum, and fusible vents are installed to meet code requirements and to protect the semitrailer from damage. A plugged or inoperative vent can cause extensive shell damage if design pressure or vacuum is exceeded. The fusible vents are designed to operate at high temperatures. If these vents are coated with paint, dirt, or other foreign material, the temperature when relief occurs may be greatly increased.

Performance Steps

WARNING

ENSURE THAT GROUNDING CONNECTIONS ARE MADE PROPERLY AND FIRMLY BEFORE ANY FUELING OPERATIONS BEGIN. THIS WILL ENSURE THAT GROUNDING CONNECTIONS WILL NOT RELEASE, THUS ELIMINATING THE POSSIBILITY OF SPARKS CAUSED BY STATIC ELECTICITY, WHICH WILL IGNITE FUEL. FIGURE 3-32 SHOWS TYPICAL GROUNDING CONNECTIONS.

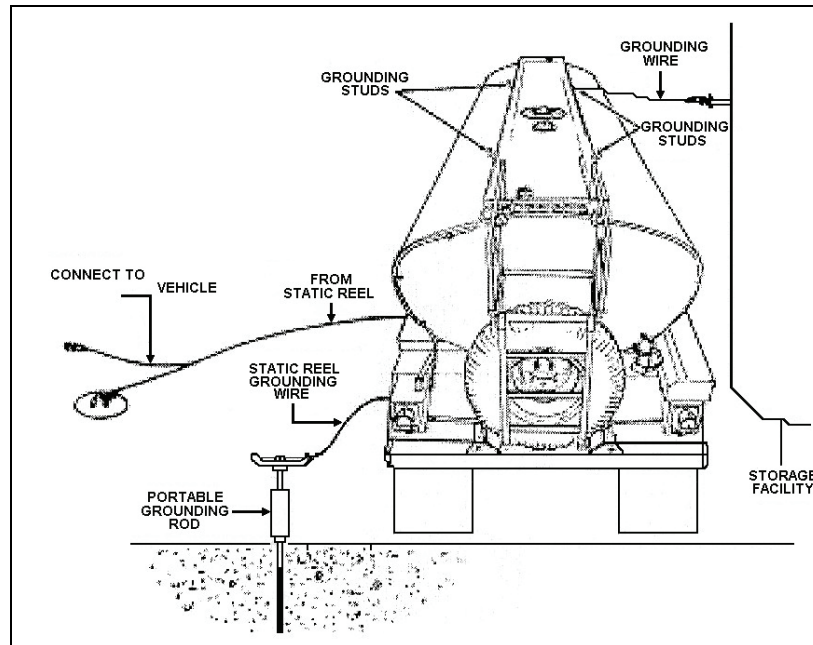


Figure 3-32. Typical Grounding Connections

f. Prior to starting engine perform the following steps.

WARNING

BEFORE AND AFTER FUEL SERVICING OPERATIONS, ALL VALVES ARE TO BE IN THE CLOSED POSITION. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN EXCESSIVE SPILLAGE AND CREATE A FIRE HAZARD.

- (1) Ensure all manually operated valves are closed. This is a must before either starting or ending any fuel servicing operations.
- (2) To prevent collapse of tank when filling or emptying tank, ensure that the top vent is working properly.
- (3) Ground and bond vehicle.
- (4) Remove fire extinguishers and bring them to the point of operation.
- (5) Ensure engine fuel tank has enough fuel for operation.

Performance Steps

- (6) Remove engine dipstick and check oil level. Refill as needed.
- (7) Check air cleaner restriction indicator. Clean or replace filter element as needed.

WARNING

**CARBON MONOXIDE CAN BE DEADLY. DO NOT OPERATE ENGINE
IN AN ENCLOSED AREA UNLESS IT IS ADEQUATELY VENTILATED.**

- g. Starting the engine.
 - (1) Rotate engine switch to RUN. When engine is warm or restarted after short periods of time, preheating is usually not necessary. In temperatures below 30 degrees F, a longer preheating period is needed.
 - (2) Rotate pre-heater switch to ON for about 1 minute. Ensure indicator light has illuminated.
 - (3) After 1 minute, continue to hold pre-heater switch and rotate starter switch to START.
 - (4) Release both starter and pre-heater switches after engine starts.
 - (5) Check the gauges for correct indication. Stop the engine if a system malfunction is indicated.
- h. Stopping engine (if not used for refueling operations).

CAUTION

Throttle engine to fast idle (1,200 rpm) for about 5 minutes before stopping to allow for gradual cooling of engine.

- (1) Release throttle to low idle.
 - (2) Rotate engine switch to STOP.
- i. Engine operation - High temperature.
 - (1) See the nothing obstructs the air flow to and from the engine oil cooler and the cylinder cooling fins.
 - (2) See that shrouds are properly installed and in good condition.
- j. Engine operation - Low temperature.

NOTE: If operating in cold weather, cover (dust boot) of fuel stop solenoid must be cut off. Cover stiffens in cold temperatures and stops flow of fuel to engine.

- (1) Ensure that engine has the proper oil and fuel for the existing temperatures.
- (2) Keep batteries fully charged.

NOTE: Entire cold weather starting procedures may not be required. The colder the temperature, the more pre-heating and cranking will be required.

Performance Steps

- (3) When temperatures are below 30 degrees F, perform the following:
 - (a) Pull throttle about half way out.
 - (b) Engage pre-heater switch and leave turned on until engine has started, approximately 5 minutes at coldest temperature.
 - (c) After 1 3/4 minutes, move engine switch to RUN position. Wait 15 seconds, then engage starter switch to START position and crank engine for 15 seconds. Disengage starter switch.
 - (4) Wait one minute and engage starter switch. Crank for one minute or until running. Engine should be firing. Disengage starter switch.
 - (5) If engine still has not started, engage starter switch and crank for 1 minute. Engine should be firing. Disengage starter switch when engine is increasing speed.
 - (6) Turn off pre-heater switch.
3. Conduct basic haul and fuel services (operation NOT involving engine and pump).

WARNING

TOP LOADING SHOULD ONLY BE DONE WHEN BOTTOM LOADING IS NOT POSSIBLE. BOTTOM LOADING MINIMIZES THE LEVEL OF STATIC ELECTRICITY BUILDUP. WHEN TOP LOADING THROUGH FILL COVER, THERE IS NO AUTOMATIC SHUTDOWN. MAN THE LOADING HOSE TO AVOID FUEL SPILLAGE. USE CAPACITY INDICATOR GAUGE AND DIPSTICK GAUGE TO DETERMINE AMOUNT OF FUEL LOADED. FAILURE TO FOLLOW THIS WARNING MAY RESULT IN UNCONTROLLED FUEL SPILLAGE AND A FIRE OR EXPLOSION HAZARD. LADDER HAS NARROW TREAD, BE CAREFUL WHEN CLIMBING.

- a. Top Loading (the product is not filtered or metered by the vehicle).
 - (1) Ensure all valves are closed.
 - (2) Ground and bond the semitrailer before opening the fill cover.
 - (3) Place fire extinguishers at point of operation.
 - (4) Slowly open fill cover. Insert hose far enough to keep the end of the hose in contact with the bottom of the tank.
 - (5) Slowly begin the flow and fill the tank no further than to the bottom of the capacity indicator (one person at storage tank valve or other fuel source and other holding fill tube into semitrailer).
 - (6) Remove fill hose. Close and secure the manhole cover.
 - (7) Drain accumulated water. Close all valves. Put the container under the manifold drain in the piping control cabinet. Open the emergency operator valve. Slowly open the system drain valves.
 - (8) Remove the grounding wires and store fire extinguishers.
- b. Bottom loading (the product is not filtered or metered by the vehicle).
 - (1) Ensure all valves are closed.
 - (2) Ground and bond the vehicle.
 - (3) Remove cover from the bottom loading connection and connect the bottom loading hose to the bottom loading connection.
 - (4) Remove the fire extinguishers and bring to point of operation.
 - (5) On the M967, put the selector valve in the LOAD position.
 - (6) Open the emergency valve operator.
 - (7) Begin the flow from the outside source.

Performance Steps**WARNING**

WHEN FILLING THE TANKS BY MEANS OF BOTTOM LOADING, A TEST OF THE PRE-CHECK VALVE IS MANDATORY. IF THIS SYSTEM IS NOT FUNCTIONING, STOP ALL OPERATIONS. DETERMINE THE PROBLEM AND HAVE IT CORRECTED BY A QUALIFIED TECHNICIAN. FAILURE OF AUTOMATIC SHUT-OFF TO FUNCTION MAY RESULT IN UNCONTROLLED FUEL SPILLAGE AND DANGE OF FIRE AND EXPLOSION.

- (8) After the flow has begun, open the pre-check valve to pre-check the shutoff float. Flow should stop after about 20 to 25 seconds to indicate that the float is functional. If it is not working, stop all operations and notify higher maintenance.
- (9) Close the pre-check valve. The flow will resume in about 20 seconds. Be prepared to stop the fuel supply at the loading facility in event of shut-off float malfunction, if leaks are apparent, or other unusual condition are seen.
- (10) When tank is full, the flow should stop automatically. Close all valves, replace all covers, and disconnect the hoses.
- (11) Drain the accumulated water in the same manner as stated in 1a(8) above for top loading.
- (12) Remove the grounding wires.
- (13) Stow fire extinguishers.
- c. Self-loading using vehicle engine and pump (see Figure 3-33). Product is not filtered.
 - (1) Ensure all valves are closed.
 - (2) Ground and bond the vehicle.
 - (3) Remove fire extinguishers and bring to point of operation.
 - (4) Start the engine and pump (see item 1 as necessary).
 - (5) Adjust idle speed on pump to 1,000 to 1,200 rpm.
 - (6) Remove the 4-inch bulk fuel hose from the hose trough. Do this by disconnecting the spring pins and turning the hose trough bars out of the way.
 - (7) Remove dust cap from the fuel outlets. Connect one end of the bulk fuel hose to the outlet and the other end to the storage facility.
 - (8) Place the selector valve in the LOAD position.
 - (9) Open the operator valve, fuel outlet valve, and the manifold outlet valve.
 - (10) Shortly after the flow has started, open the pre-check valve to pre-check the shutoff float. After about 20 to 25 seconds, the flow should stop to let you know the float is working properly. If it is not working, stop all operations and notify higher maintenance.
 - (11) Close the pre-check valve. Flow will resume in about 20 seconds.
 - (12) When tank is full, the flow should stop automatically.

WARNING

IN AN EMERGENCY, CLOSE THE OPERATOR'S VALVE OR PULL THE EMERGENCY VALVE SHUTOFF ON THE OPPOSITE SIDE OF THE SEMITRAILER.

Performance Steps

- (13) At the end of operation, idle down the engine.
- (14) Close all valves (see Figures 3-34a, 3-34b, and 3-35).
- (15) Disconnect the 4-inch bulk fuel hose and put in the hose trough. Secure the hose trough latches.
- (16) Stop the engine.
- (17) Drain accumulated water in the same manner as with top loading.
- (18) Remove the ground wires.
- (19) Recover and stow fire extinguishers.

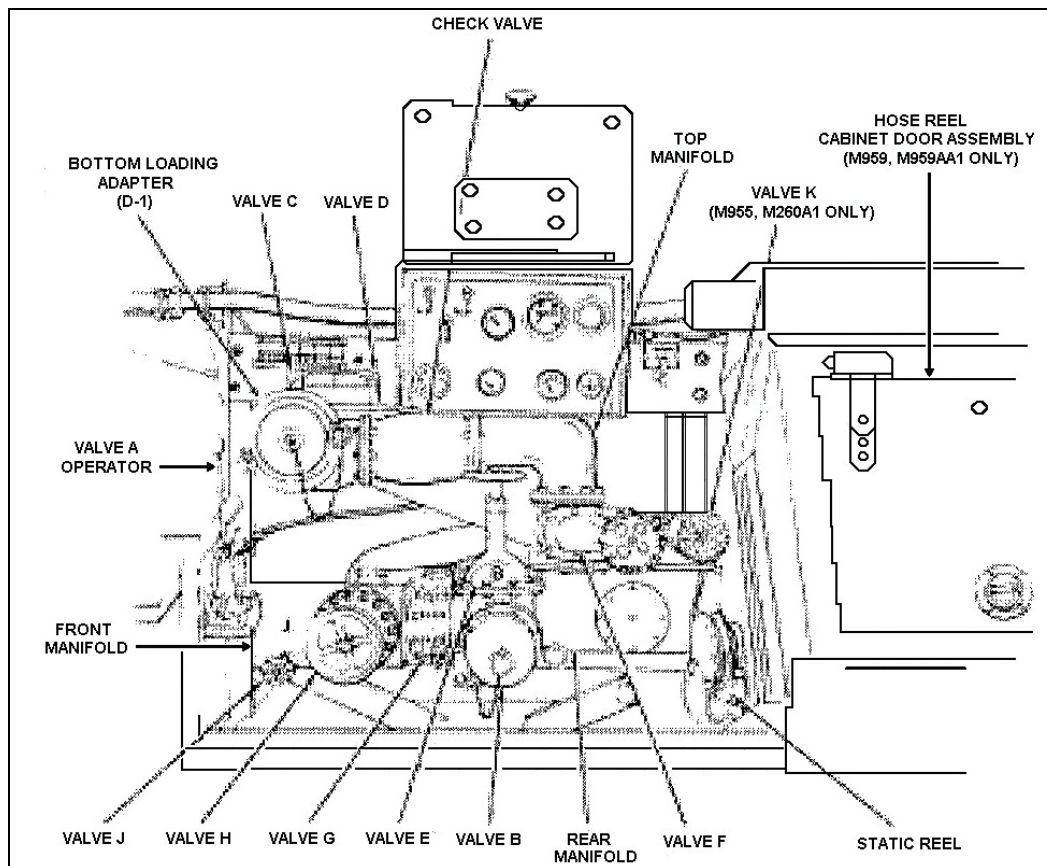


Figure 3-33. Engine and Pump Assembly

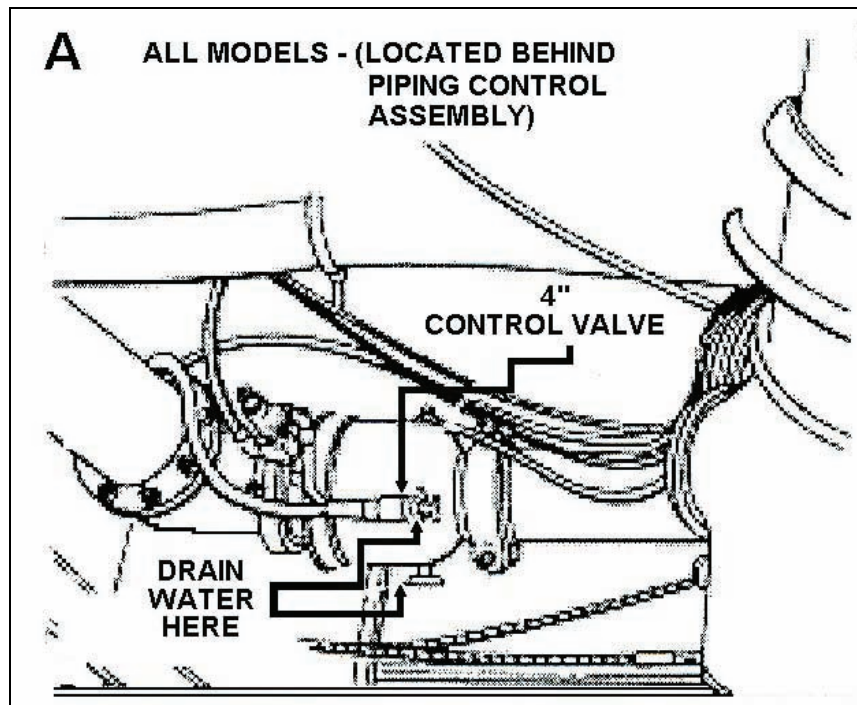


Figure 3-34a. Pilot Line Water Drains-1

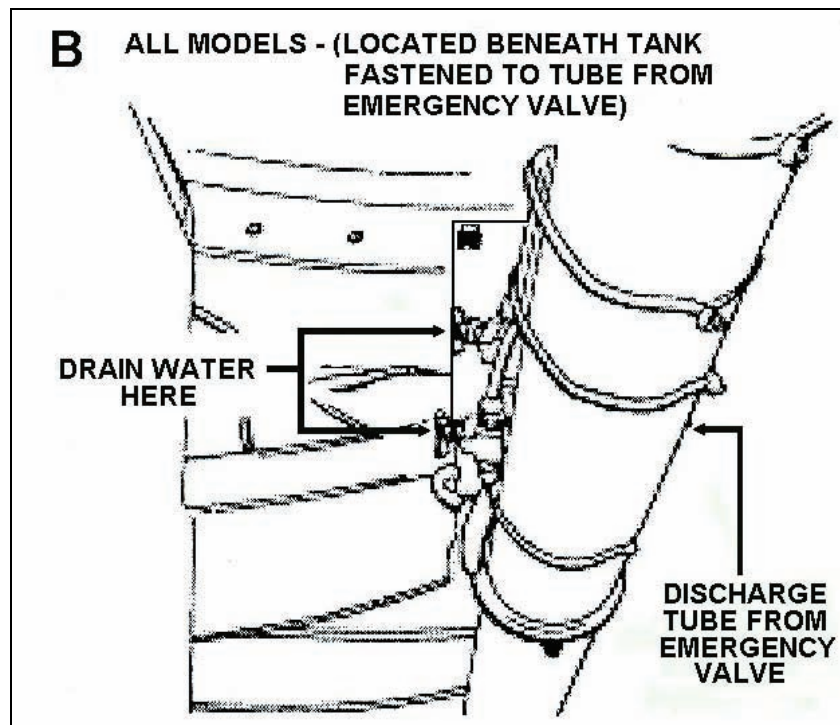


Figure 3-34b. Pilot Lines Water Drains-2

Performance Steps

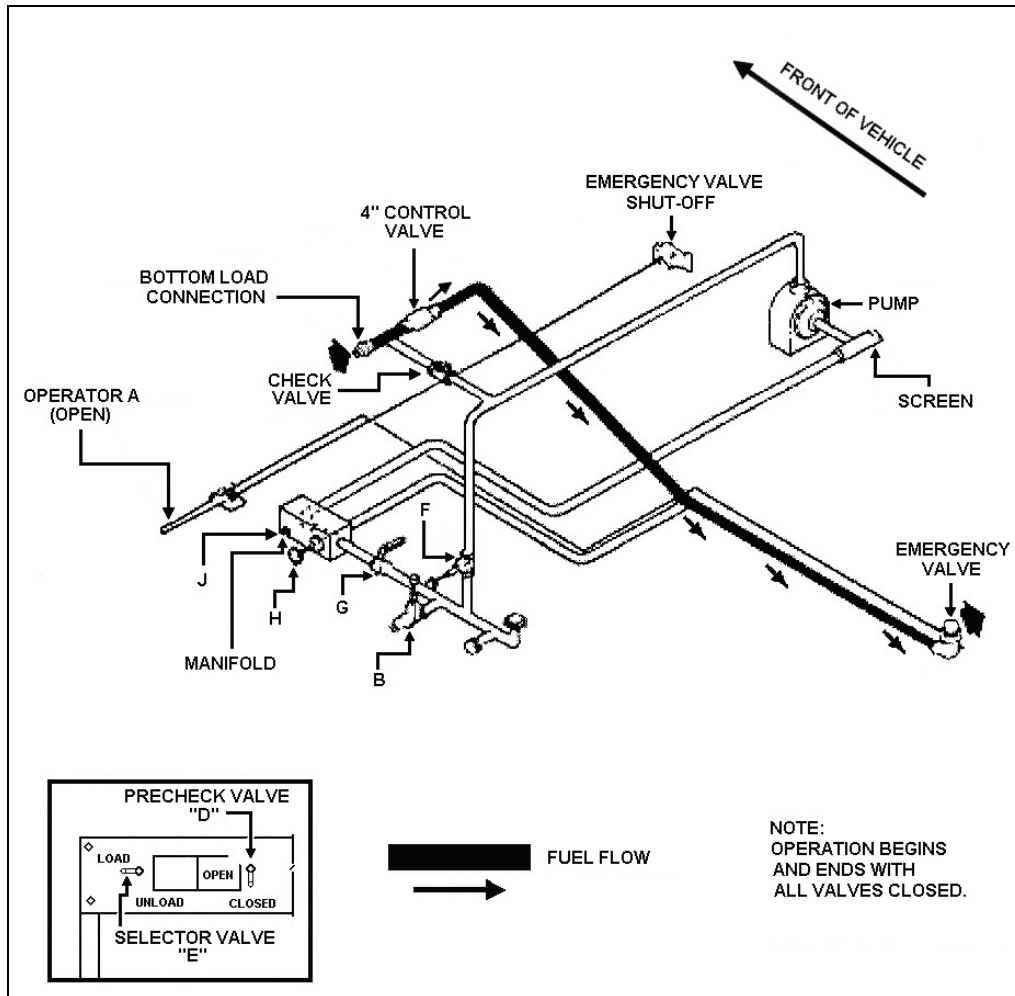


Figure 3-35. Self-Load Flow Diagram

4. Gauge petroleum tank vehicles.
 - a. Position tank vehicle.
 - b. Position fire extinguishers within 5 to 10 feet of operation.
 - c. Review shipping document to verify the type of fuel in the tank vehicle.
 - d. Ground and bond the vehicle.
 - e. Ground self from static electricity.
 - f. Open the manhole cover with the wind at your back to avoid breathing fuel vapor.
 - g. Insert thermometer as soon as each hatch is opened to measure the temperature.
 - h. Gauge the compartment using the tank vehicle gauge stick provided with the tank vehicle.
 - i. Repeat gauging procedure until two readings that are the same are obtained to ensure gauge is accurate and record on the gauge worksheet.
 - j. Remove the thermometer after the required time and record the temperature on the gauge worksheet.

Evaluation Preparation: Setup: Provide for the Soldier and M967 tank semitrailer coupled to a prime mover, BII for prime mover, and semitrailer. Instructions to conduct refueling operations for one or more vehicles and customer vehicle(s).

Brief Soldier: You are required to ensure your vehicle is prepared for refueling operation. You are to refuel customer vehicle(s) safely while adhering to all safety aspects of the operation of the tank semitrailer. If you are about to commit an unsafe act you will be immediately stopped and informed of your performance.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Applied risk management procedures.	—	—
a. Referred to FM 5-19 and local SOP for guidelines applicable to this procedure. Ensured all aspects of these operations are assessed for the risk involved.		
b. Filled out the risk assessment worksheet. Notified chain-of-command if assessment determines requirement for approval from higher authority.		
2. Performed before-operation preparations.	—	—
a. Prior to starting engine.		
(1) Ensured all manually operated valves are closed. This is a must before either starting or ending any fuel servicing operations.		
(2) To prevent collapse of tank when filling or emptying tank, ensured that the top vent is working properly.		
(3) Grounded and bonded vehicle.		
(4) Removed fire extinguishers and bring them to the point of operation.		
(5) Ensured engine fuel tank has enough fuel for operation.		
(6) Removed engine dipstick and check oil level. Refilled as needed.		
(7) Checked air cleaner restriction indicator. Cleaned or replace filter element as needed.		
b. Starting the engine.		
(1) Rotated engine switch to RUN.		
(2) Rotated pre-heater switch to ON for about 1 minute. Ensured indicator light has illuminated.		
(3) After 1 minute, continued to hold pre-heater switch and rotated starter switch to START.		
(4) Released both starter and pre-heater switches after engine started.		
(5) Checked the gauges for correct indication. Stopped the engine if a system malfunction was indicated.		
c. Stopping engine (if not used for refueling operations).		
(1) Released throttle to low idle.		
(2) Rotated engine switch to STOP.		
d. Engine operation - High temperature.		
(1) Saw that nothing obstructed the air flow to and from the engine oil cooler and the cylinder cooling fins.		
(2) Saw that shrouds are properly installed and in good condition.		
e. Engine operation - Low temperature.		
(1) Ensured that engine has the proper oil and fuel for the existing temperatures.		
(2) Kept batteries fully charged.		

Performance Measures**GO****NO-GO**

- (3) When temperatures are below 30 degrees F, performed the following:
 - (a) Pulled throttle about half way out.
 - (b) Engaged pre-heater switch and left turned on until engine started, approximately 5 minutes at coldest temperature.
 - (c) After 1 3/4 minutes, moved engine switch to RUN position. Waited 15 seconds, then engaged starter switch to START position and cranked engine for 15 seconds. Disengaged starter switch.
 - (4) Waited one minute and engaged starter switch. Cranked for one minute, or until running. Engine should be firing. Disengaged starter switch.
 - (5) If engine still has not started, engaged starter switch and crank for one minute. Engine should be firing. Disengaged starter switch when engine is increasing speed.
 - (6) Turned off pre-heater switch.
3. Conducted basic haul and fuel services (operation NOT involving engine and pump). ——— ———
- a. Top Loading (the product is not filtered or metered by the vehicle).
 - (1) Ensured all valves are closed.
 - (2) Grounded and bonded the semitrailer before opening the fill cover.
 - (3) Placed fire extinguishers at point of operation.
 - (4) Slowly opened fill cover. Inserted hose far enough to keep the end of the hose in contact with the bottom of the tank.
 - (5) Slowly began the flow and filled the tank no further than to the bottom of the capacity indicator. (One person at storage tank valve or other fuel source, and other holding fill tube into semitrailer.)
 - (6) Removed fill hose. Closed and secured the manhole cover.
 - (7) Drained accumulated water. Closed all valves. Put the container under the manifold drain in the piping control cabinet. Opened the emergency operator valve. Slowly opened the system drain valves.
 - (8) Removed the grounding wires and store fire extinguishers.
 - b. Bottom loading (the product is not filtered or metered by the vehicle).
 - (1) Ensured all valves are closed.
 - (2) Grounded and bonded the vehicle.
 - (3) Removed cover from the bottom loading connection and connected the bottom loading hose to the bottom loading connection.
 - (4) Removed the fire extinguishers and brought to point of operation.
 - (5) On the M967, put the selector valve in the LOAD position.
 - (6) Opened the emergency valve operator.
 - (7) Began the flow from the outside source.
 - (8) After the flow has begun, opened the pre-check valve to pre-check the shutoff float. Flow stopped after about 20 to 25 seconds to indicate that the float is functional. If it is not working, stop all operations and notify higher maintenance.
 - (9) Closed the pre-check valve. The flow will resume in about 20 seconds.
 - (10) When tank was full, the flow stopped automatically. Closed all valves, replaced all covers, and disconnected the hoses.
 - (11) Drained the accumulated water in the same manner as stated in 1a(8) above for top loading.
 - (12) Removed the grounding wires.
 - (13) Stowed fire extinguishers.

Performance Measures**GO****NO-GO**

- c. Self-loading using vehicle engine and pump. Product is not filtered.
 - (1) Ensured all valves are closed.
 - (2) Grounded and bonded the vehicle.
 - (3) Removed fire extinguishers and brought to point of operation.
 - (4) Started the engine and pump (see item 1 as necessary).
 - (5) Adjusted idle speed on pump to 1000 to 1200 rpm.
 - (6) Removed the 4-inch bulk fuel hose from the hose trough. Did this by disconnecting the spring pins and turning the hose trough bars out of the way.
 - (7) Removed dust cap from the fuel outlets. Connected one end of the bulk fuel hose to the outlet and the other end to the storage facility.
 - (8) Placed the selector valve in the LOAD position.
 - (9) Opened the operator valve, fuel outlet valve, and the manifold outlet valve.
 - (10) Shortly after the flow had started, opened the pre-check valve to pre-check the shutoff float. After about 20 to 25 seconds, the flow stopped to let you know the float was working properly. If it was not working, stopped all operations and notified higher maintenance.
 - (11) Closed the pre-check valve. Flow resumed in about 20 seconds.
 - (12) When tank was full, the flow stopped automatically.
 - (13) At the end of operation, idled down the engine.
 - (14) Closed all valves.
 - (15) Disconnected the 4-inch bulk fuel hose and put in the hose trough. Secured the hose trough latches.
 - (16) Stopped the engine.
 - (17) Drained accumulated water in the same manner as with top loading.
 - (18) Removed the ground wires.
 - (19) Recovered and stowed fire extinguishers.

4. Gauged petroleum tank vehicles.

- a. Positioned tank vehicle.
- b. Positioned fire extinguishers within 5 to 10 feet of operation.
- c. Reviewed shipping document to verify the type of fuel in the tank vehicle.
- d. Grounded and bonded the vehicle.
- e. Grounded self from static electricity.
- f. Open the manhole cover with the wind at your back to avoid breathing fuel vapor.
- g. Inserted thermometer as soon as each hatch was opened to measure the temperature.
- h. Gauged the compartment using the tank vehicle gauge stick provided with the tank vehicle.
- i. Repeated gauging procedure until two readings the same were obtained to ensure gauge is accurate, and recorded on the gauge worksheet.
- j. Remove the thermometer after the required time and record the temperature on the gauge worksheet.

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.

References

Required

FM 5-19
TM 9-2320-366-10-1
TM 9-2320-366-10-2
TM 9-2330-356-14

Related

FM 10-67-1

Subject Area 6: Adverse Terrain/Weather Operations

Operate Cargo Vehicle on Secondary Roads/Trails/Cross-Country**551-88M-1360**

Conditions: Given a mission-ready, CTIS-equipped, tactical wheeled vehicle, hearing protection, and designated route over secondary roads/trails or cross-country.

Standards: You must safely operate a vehicle through various terrain conditions without injury to personnel or damage to equipment and without getting stuck.

Performance Steps

1. Prepare vehicle for off-road operations.

WARNING

ENSURE THAT ALL CREW PERSONAL GEAR, WEAPONS, BII, AND ANY LOAD OF CARGO WHETHER STORED INTERNALLY IN THE VEHICLE, IN THE CARGO BED, OR ON A TRAILER OR SEMITRAILER IS SECURELY FASTENED OR TIED DOWN TO PREVENT INADVERTENT SHIFTING OR BECOMING A PROJECTILE. IF CARGO LOAD IS IN CARGO BED, TRAILER OR SEMITRAILER ENSURE ALL TIEDOWN DEVICES ARE SECURED PROPERLY AND THAT LOAD WILL NOT SHIFT OR OTHERWISE BECOME DISLODGED DURING MOVEMENT. FAILURE TO COMPLY MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH, LOSS OR DAMAGE TO EQUIPMENT, VEHICLE ROLLOVER, AND MISSION FAILURE.

- a. Before movement, ensure that all cargo whether stowed inside the vehicle, in the cargo bed is securely tied down to prevent shifting during movement.
 - b. If equipped with CTIS, select proper mode for terrain, monitor panel lights to verify system settings to inflate or deflate tires, and adhere to vehicle speed restrictions.
 - c. Refer to vehicle TM or data plate for maximum side slope of vehicle with or without a trailer/semitrailer to ensure vehicle limitations are not exceeded prior to off-road operations.
2. Start engine.
 3. Operate vehicle through shallow ditches.
 - a. Stop the Vehicle.
 - b. Start the CTIS system and select X-C. Allow system to adjust tire pressure accordingly.
 - c. Check the terrain for obstructions.
 - d. Place transmission shift lever into first (low) gear.
 - e. Steer vehicle toward the ditch so that one wheel on an axle will leave the ditch as the other wheel on the same axle enters it.

Performance Steps

4. Operate vehicle through deep ditches.
 - a. Stop the vehicle.
 - b. Start the CTIS system and select X-C. Allow system to adjust tire pressure accordingly.
 - c. Check terrain for obstructions.
 - d. Cut away both sides of ditch, if necessary.
 - e. Place transfer shift lever into all-wheel drive (if applicable).
 - f. Place vehicle into lowest forward gear.
 - g. Approach the ditch at an angle.
 - h. Accelerate the vehicle enough to keep it rolling as it goes up the other side.
5. Operate vehicle through gullies and ravines.
 - a. Stop the vehicle.
 - b. Start the CTIS system and select X-C. Allow system to adjust tire pressure accordingly.
 - c. Check the terrain for obstructions.
 - d. Place transmission shift lever into first (low) gear.
 - e. Ease the front wheel over at a right angle to the edge of the ravine.
 - f. Steer a straight course so that both front wheels strike the bottom at the same time.
 - g. Accelerate enough so the vehicle can climb up the opposite bank.
6. Operate vehicle through wooded area.
 - a. Stop the vehicle.
 - b. Start the CTIS system and select X-C. Allow system to adjust tire pressure accordingly.
 - c. Check the terrain for obstructions.
 - d. Remove the tarp and bows, as required.
 - e. Place transmission shift lever into first (low) gear.
 - f. Maneuver around obstructions.
7. Operate vehicle through rocky terrain.
 - a. Stop the vehicle.
 - b. Start the CTIS system and select X-C. Allow system to adjust tire pressure accordingly.
 - c. Check the terrain for obstructions.
 - d. Drive slowly, choosing route while advancing.
 - e. Remove stones between dual tires as often as required.
8. Operate vehicle through streams (fording).
 - a. Stop the vehicle.
 - b. Start the CTIS system and select X-C. Allow system to adjust tire pressure accordingly.
 - c. Check the terrain for obstructions.
 - d. Check the stream for depth and firm support.
 - e. Place transfer shift lever into low range/all-wheel drive.
 - f. Place the transmission shift lever into first (low) gear.
 - g. Drive through water, without shifting unless absolutely necessary.
 - h. Dry the brakes.
 - (1) Select a dry, level stretch of terrain.
 - (2) Apply the brakes a few times with a light steady pressure to obtain normal braking.

Performance Steps

9. Operate vehicle through swamps and mud.
 - a. Stop the vehicle.
 - b. Start the CTIS system and select X-C. Allow system to adjust tire pressure accordingly.
 - c. Check the terrain for obstructions.
 - d. Engage low-range/all-wheel drive.
 - e. Place transmission shift lever into first gear.
 - f. Drive through the area maintaining a steady speed.
10. Shut down engine.
11. Conduct a complete walk-around, after-operation vehicle inspection to check for any physical damage that may have been incurred during off-road operation.
 - a. Complete all after-operation checks in accordance with vehicle TM
 - b. Remove any lodged debris.

Evaluation Preparation: Setup: Provide the Soldier a vehicle with cross-country capability. Brief Soldier: Tell the Soldier to operate the vehicle through varying terrains without injuring personnel or damaging equipment and without getting stuck.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Started the engine.	_____	_____
2. Operated vehicle through shallow ditches.	_____	_____
3. Operated vehicle through deep ditches.	_____	_____
4. Operated vehicle through gullies and ravines.	_____	_____
5. Operated vehicle through wooded area.	_____	_____
6. Operated vehicle through rocky terrain.	_____	_____
7. Operated vehicle through streams (fording).	_____	_____
8. Operated vehicle through swamps and mud.	_____	_____
9. Shut down engine.	_____	_____
10. Conducted complete walk-around of vehicle while conducting after-operation inspection and removed any debris from undercarriage.	_____	_____

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.

References

Required

FM 21-305
 TM 9-2320-366-10-1
 TM 9-2320-366-10-2

Related

Operate Vehicle Under Adverse Weather Conditions

551-88M-1361

Conditions: This task is to be performed under adverse weather conditions such as extreme cold-temperatures, extremely hot temperatures, heavy rain, or blowing sand (desert environment) or snow in which vehicle performance is considered to be under "unusual" conditions.

Extremely hot, heavy rain, blowing sand and dusty desert conditions:

Provided mission-ready tactical wheeled vehicle, goggles, face mask, hot-weather uniform and mission requirement to travel under these conditions as part of a convoy movement

Extremely cold weather (32 degrees F to -24 degrees F) and blowing snow:

Provided mission-ready tactical vehicle with winterization kit, goggles, cold weather/arctic uniform, gloves, and mission requirement to travel under these conditions as part of a convoy movement

NOTE: If conditions are under extreme cold-weather, installation of the vehicle radiator cover assembly is required.

Standards: Extreme hot weather, heavy rain or blowing sand and dusty, desert conditions:

You are to operate the vehicle while complying with all extreme hot weather operating procedures/precautions. You must have full control of the vehicle at all times following traffic regulations and rules of the road. If vehicle is so equipped, the operator must use the applicable CTIS setting to enable safe vehicle operations. All driving maneuvers must be made under these extreme conditions without becoming mired or succumbing to a conditionally-related mechanical failure.

Extreme cold weather (32 degrees F to -24 degrees F) and blowing snow:

You must operate the vehicle using cold weather starting and operating procedures according to the appropriate vehicle TM. You must operate the vehicle following traffic regulations and rules of the road. If vehicle is so equipped, the operator must use the applicable CTIS system to enable safe vehicle operations. Operator must maintain full control of the vehicle at all times. All driving maneuvers must be made under these extreme conditions without injury to personnel, or damage to the vehicle.

Performance Steps

1. Operate vehicle in heavy rain.

CAUTION

Road surfaces are especially slick just after a rain or drizzle begins. Loosed grease and oil mix with raindrops, quickly covering the surface with a slippery film.

- a. If CTIS equipped, select mode for this type of weather or terrain (as necessary). Watch for indicator lamp showing correct mode selection on CTIS panel and adhere to speed restrictions.

NOTE: Recognizes that the M1078/1083 and M939 series vehicle CTIS starts automatically when engine is started and adjusts pressure to highway mode.

Performance Steps

- b. Accelerate moderately.
- c. Reduce speed as necessary for conditions.
- d. Moderately apply the brakes when slowing down.
- e. Make no quick turns.
- f. Allow at least twice the normal following distance.
- g. Do not pump the brakes (ABS only).
- h. Hold the brake pedal down and let the ABS system work.
- i. During emergencies, steer and brake at the same time (ABS only).
- j. Release enough pressure on the brakes to get the vehicle rolling again to regain steering (front ABS only).
- k. Recover from skid by:
 - (1) Staying off the brakes.
 - (2) Turning quickly. Turn the steering wheel in the direction you want the vehicle to go. This lines the front of the vehicle up with the back.
 - (3) Countersteer-turn back the other way. As soon as the vehicle begins to straighten out, turn the wheel back the other way so that the vehicle will not turn too far.
 - (4) Continue to correct your steering left and right until you recover from the skid.
 - (5) Turn back to straight ahead.

2. Operate vehicle in extremely hot, dusty, desert environment.

NOTE: As a general rule vehicles in a convoy should not follow directly behind one another due to high concentrations of dust in the air. Visibility may be reduced to zero facilitating a vehicle accident.

- a. Don protective goggles and other facial protection if available.
- b. If CTIS equipped, select mode for this type of terrain, watch for indicator showing correct mode selection on CTIS panel and adhere to speed restrictions.
- c. Select a gear or range that will start you with a minimum of, or no clutch slippage (manual transmission) and wheel spinning.
- d. Use rear wheel drive if possible due to the front wheels tendency to dig into the sand.
- e. Accelerate slowly.
- f. Check instrument panel gauges more frequently while operating vehicle to prevent a mechanical failure due to extremely hot temperatures.
- g. Maintain a steady and even rate of movement.
- h. Avoid unnecessary shifting of gears (manual transmission).
 - i. Anticipate difficult spots and bypass if possible.
- j. Approach a dune from the windward side slope at a 90-degree angle.
- k. Follow the track of preceding vehicle or break a new path depending on conditions.
 - l. Make wide turns.
- m. Let your vehicle roll to a halt as practicable.
- n. Attempt to stop on a downhill slope.

3. Operate vehicle through streams.

- a. If CTIS equipped, select mode for this type of terrain; watch for indicator showing correct mode selection on CTIS panel and adhere to speed restrictions.
- b. Follow the applicable steps provided in the vehicle TM for fording streams.
- c. Check the bottom to see how firm a support can be expected.

Performance Steps

- d. Keep the cab door open when crossing frozen streams.
- e. After reaching dry land, test brakes at a reduced speed by:
 - (1) Lightly applying and releasing brakes until normal braking is restored (Non ABS only).
 - (2) Apply light steady pressure on brakes until normal braking is restored (ABS only).
4. Operate vehicle in extreme cold weather (32 degrees F to -24 degrees F) and blowing snow.
 - a. Start the vehicle using cold weather starting procedures referenced in the applicable vehicle TM.
 - b. Turn on vehicle cab heater and adjust to defrost position to clear windows while engine is warming up.
 - c. Remove ice and snow from windows.
 - d. If CTIS equipped, select mode for this type of terrain; watch for indicator showing correct mode selection on CTIS panel and adhere to speed restrictions.
 - e. Place vehicle into motion by following general operating procedures in the applicable vehicle TM under "operation under unusual conditions."
 - f. Begin movement in second or third gear (manual transmission) rather than first of low. Engage clutch gradually to prevent wheel spin.
 - g. For automatic-transmission-vehicles use D2 range and gradually apply throttle.
 - h. Avoid quick acceleration.
 - i. Drive at reduced speed for better control and safer stops.
 - j. Display turn signals earlier than usual (if tactical situation permits).
 - k. Maintain at least double the normal following distance from the vehicle ahead.
 - l. Pump brakes to give early warning to those following of your intention to stop (Non ABS).
 - m. Apply steady brake pressure earlier when stopping for warn others of your intentions (ABS only).
 - n. Descend moderate grades in the gear normally used to climb the same grade.

Evaluation Preparation: Setup: Provide the Soldier a tactical wheeled vehicle that may or may not be tasked to participate in a tactical convoy in environmental extremes of hot and cold weather and heavy rain. If extreme cold weather the vehicle must be equipped with radiator cover assembly.

Brief Soldier: Tell the Soldier to drive the vehicle to preselected points and final destination and return to departure point, without damaging the vehicle or physical surroundings, and without injuring personnel.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Operated vehicle in heavy rain.	—	—
2. Operated vehicle in extremely hot, dusty, desert environment.	—	—
3. Operated vehicle through streams.	—	—
4. Operated vehicle in extreme cold weather (32 degrees F to -24 degrees F) and blowing snow.	—	—

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.

References

Required

TM 9-2320-366-10-1
TM 9-2320-366-10-2

Related

FM 21-305
FM 55-30
FM 90-3

Subject Area 7: Motor Transport Supervision

Operate Vehicle With or Without Trailer/Semitrailer Under Blackout Conditions
551-88M-1363

Conditions: Given a mission-ready 5-ton cargo vehicle, with or without a trailer/ or a truck tractor with semitrailer, hearing protection, and a lead vehicle, and guidance over a controlled driving route or range.

Standards: You have operated the vehicle under blackout conditions at night using only blackout operating lights as directed to maintain proper vehicle distance without injury to personnel or damage to equipment.

Performance Steps

1. Ensure the proper operation of all blackout lights and markers.
 - a. Check blackout marker lights on both front and rear of vehicle.
 - b. Check blackout drive lights.
 - c. Check blackout stop light.
 - d. Ensure all lenses are free of dirt, mud, or paint.
2. Operate vehicle at a low speed (5 to 10 MPH/8 to 16 KMPH) or as directed during blackout operations.
3. Maintain a proper interval (60 to 180 feet) from the vehicle ahead. If you are following the correct distance, each pair of blackout lights appears as one red light.

WARNING

WHEN OPERATING IN AN ASSEMBLY AREA, USE DISMOUNTED GROUND GUIDES FOR SAFETY. FOLLOW NIGHTTIME HAND AND ARM SIGNALS (GUIDE USING FLASHLIGHT) AS NECESSARY.

Evaluation Preparation: Setup: Provide for the Soldier 5-ton cargo truck with or without a trailer/ or a Truck tractor with semitrailer that has operational blackout drive and marker lights, a lead tactical vehicle equipped with blackout marker lights to be operated during blackout conditions at night. There should be little or no ambient light in the vicinity of the controlled driving area.

Brief Soldier: Instruct the Soldier to operate the vehicle using blackout drive lights only over a designated, controlled route at nighttime. Soldier is not to use any night vision enhancement device and to follow the lead vehicle at the prescribed following distance. Soldier must navigate using only night vision while following the lead vehicle's rear blackout lights to determine proper distance and speed. All driving actions are to be completed without injury to any Soldier or damage to either vehicle.

Performance Measures

	<u>GO</u>	<u>NO-GO</u>
1. Ensured the proper operation of all blackout lights and markers.	—	—
2. Operated vehicle at a low speed (5 to 10 MPH/8 to 16 KMPH).	—	—
3. Maintained a proper interval (60 to 180 feet) from the vehicle ahead.	—	—

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.

References**Required**

FM 21-305
TM 9-2320-211-10
TM 9-2320-260-10
TM 9-2320-272-10
TM 9-2320-279-10-1
TM 9-2320-279-10-2
TM 9-2320-280-10
TM 9-2320-283-10
TM 9-2320-360-10
TM 9-2320-364-10
TM 9-2320-365-10
TM 9-2320-366-10-1
TM 9-2320-366-10-2

Related

Operate Vehicle With Semitrailer on Secondary Roads/Trails/Cross-Country
551-88M-1368

Conditions: Given a tractor with semitrailer with before-operation maintenance performed, hearing protection, as needed, and area to maneuver.

Standards: You have safely operated a tractor with semitrailer through varying terrain conditions, which include but are not limited to ditches, gullies and ravines, wooded areas, rocky terrain, streams, and swamps and mud without injuring personnel, damaging the tractor or semitrailer, physical surroundings and without getting mired.

Performance Steps

1. Prepare vehicle for off-road operations.

WARNING

ENSURE THAT ALL CREW PERSONAL GEAR, WEAPONS, BII, AND ANY LOAD OF CARGO WHETHER STORED INTERNALLY IN THE VEHICLE, IN THE CARGO BED, OR ON A TRAILER OR SEMITRAILER IS SECURELY FASTENED OR TIED DOWN TO PREVENT INADVERTENT SHIFTING OR BECOMING A PROJECTILE. IF CARGO LOAD IS IN CARGO BED, TRAILER OR SEMITRAILER ENSURE ALL TIEDOWN DEVICES ARE SECURED PROPERLY AND THAT LOAD WILL NOT SHIFT OR OTHERWISE BECOME DISLODGED DURING MOVEMENT. FAILURE TO COMPLY MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH, LOSS OR DAMAGE TO EQUIPMENT, VEHICLE ROLLOVER, AND MISSION FAILURE.

- a. Before movement, ensure that all cargo whether stowed inside the vehicle, in the cargo bed, or on a trailer or semitrailer is securely tied down to prevent shifting during movement.
 - b. Refer to vehicle TM or data plate for maximum side slope of vehicle with or without a trailer/semitrailer to ensure vehicle limitations are not exceeded prior to off-road operations.
2. Drive tractor with semitrailer through shallow and deep ditches.
 - a. Shallow ditches.
 - (1) Stop the tractor.
 - (2) Check the terrain for obstructions.
 - (3) Select the proper gear or gear range for this type of terrain.
 - (4) Slowly steer the tractor toward the ditch so that one wheel on the axle will leave the ditch as the other wheel on the same axle enters it.
 - (5) Closely observe for any side movement of trailer or semitrailer to determine any steering corrections while entering ditch. If loaded, vehicle (more top-heavy) is more likely to slide sideways so use extra caution to prevent vehicle rollover.
 - b. Deep ditches.
 - (1) Stop the tractor.
 - (2) Check the terrain for obstructions.
 - (3) Cut away sides of the ditch, if necessary.
 - (4) If equipped with CTIS, select proper mode for terrain, monitor panel lights to verify system settings to inflate or deflate tires, and adhere to vehicle speed restrictions.

Performance Steps

- (5) Place the transfer shift lever into all-wheel drive (if applicable).
 - (6) Place the tractor into its lowest forward gear and four-wheel drive (if applicable).
 - (7) Approach the ditch at an angle.
 - (8) Accelerate the tractor enough to keep it rolling as it goes up the other side.
3. Drive tractor with semitrailer through gullies and ravines.
- a. Stop the tractor.
 - b. Check the terrain for obstructions.
 - c. If equipped with CTIS, select proper mode for terrain, monitor panel lights to verify system settings to inflate or deflate tires, and adhere to vehicle speed restrictions.
 - d. Place the transmission shift lever into first gear (manual transmission) or low gear range (automatic transmission).
 - e. Ease the front wheel over the edge and into the ravine.
 - f. Steer a straight course so that both front wheels strike the bottom at the same time.
 - g. Accelerate enough so that the tractor can climb up the opposite bank.
4. Drive tractor with semitrailer through wooded area.
- a. Stop the tractor.
 - b. Check the terrain for obstructions.
 - c. Remove the tarp and bows, as necessary.
 - d. If equipped with CTIS, select proper mode for terrain, monitor panel lights to verify system settings to inflate or deflate tires, and adhere to vehicle speed restrictions.
 - e. Place the transmission shift lever in first gear (manual transmission) or low gear range for automatic transmission.
 - f. Maneuver around obstructions.
5. Drive tractor with semitrailer through rocky terrain.
- a. Stop the tractor.
 - b. Check the terrain for obstructions.
 - c. If equipped with CTIS, select proper mode for terrain, monitor panel lights to verify system settings to inflate or deflate tires, and adhere to vehicle speed restrictions.
 - d. Drive slowly choosing route while advancing.
 - e. Remove stones from between dual tires as required.
6. Drive tractor with semitrailer through streams (fording).
- a. Stop the tractor.
 - b. Check the terrain for obstructions.
 - c. Check the stream for depth and firm support.
 - d. If equipped with CTIS, select proper mode for terrain, monitor panel lights to verify system settings to inflate or deflate tires, and adhere to vehicle speed restrictions.
 - e. Place the transfer shift lever into low range/all-wheel drive.
 - f. Place the transmission shift lever into first gear.
 - g. Drive through water, not shifting unless absolutely necessary (manual transmission).

Performance Steps

7. Drive tractor with semitrailer through swamps and mud.
 - a. Stop the tractor.
 - b. Check the terrain for obstructions.
 - c. If equipped with CTIS, select proper mode for terrain, monitor panel lights to verify system settings to inflate or deflate tires, and adhere to vehicle speed restrictions.
 - d. Engage low range/all-wheel drive.
 - e. Place the transmission shift lever into first gear (manual transmission) or low range (automatic transmission).
 - f. Drive through the area maintaining a steady speed.
8. Dry the brakes.
 - a. Select a dry level stretch of terrain.
 - b. Apply the brakes a few times to obtain normal braking.
 - c. Drive at slow speed maintaining a light steady pressure on the brake pedal to cause a slight drag.

Evaluation Preparation: Setup: Provide the Soldier with a tractor and semitrailer and an area with side roads and unimproved roads.

Brief Soldier: Tell the Soldier to safely drive the tractor with semitrailer on side roads and unimproved roads without damaging the tractor and semitrailer or physical surroundings and without getting stuck. Driving maneuvers must be performed without injuring personnel.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Prepared vehicle for off-road operations.	_____	_____
2. Drove tractor with semitrailer through shallow and deep ditches.	_____	_____
3. Drove tractor with semitrailer through gullies and ravines.	_____	_____
4. Drove tractor with semitrailer through wooded area.	_____	_____
5. Drove tractor with semitrailer through rocky terrain.	_____	_____
6. Drove tractor with semitrailer through streams (fording).	_____	_____
7. Drove tractor with semitrailer through swamps and mud.	_____	_____
8. Dried the brakes.	_____	_____

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.

References

Required

TM 9-2320-366-10-1
 TM 9-2320-366-10-2
 TM 9-2330-394-13&P

Related

FM 21-305
 FM 55-30

Operate Vehicle Using Night Vision Devices

551-88M-1650

Conditions: This task should be done during the hours of darkness or limited visibility. Soldier must be a licensed operator for the vehicle used or possess a learner's permit. Given a tactical wheeled vehicle equipped with the driver's vision enhancer already mounted and connected, route to maneuver, and conditions of limited visibility or darkness.

Special conditions - Training institution must ensure adequate transition from illumination to darkness is accomplished to maximize the Soldiers' ability to use the night vision devices.

Standards: Placed the DVE into operation then safely operate the vehicle through a pre-designated route with limited visibility while relying on the use of the driver's vision enhancer to negotiate terrain. All maneuvers were completed without personal injury or damage to equipment or surroundings.

Performance Steps

1. Perform Before-operation preventive maintenance checks.
 - a. Refer to TM 11-5855-306-10, PMCS table 2-2, page 2-9 for Before-operation preventive maintenance checks.
 - b. Record any uncorrectable faults on maintenance inspect worksheet or faults that render item Not Mission Capable.
2. Prepare the AN/PVS-14 night vision goggles for operation (helmet-mounted operations)

CAUTION

Take some precaution when using/handling the helmet mount. Most damage occurs when the helmet mount is left on the helmet when not needed for immediate use. Observe the following cautions to significantly extend the useful life of the helmet mount.

Do not use excessive force when changing the up/down position of the MNVD. Excessive force can break the headmount/helmet mount adapter.

- Do not drop or throw the helmet with the helmet mount attached to it.
- With the monocular in the flipped up position, do not flick the monocular down by shaking the helmet. This places significant stress on the helmet mount.

- a. Ensure that the batteries are installed.
- b. Don the helmet.
- c. Place the monocular in the socket of the helmet mount. Set your eye relief by depressing the side buttons (or press down on side lever on metal mount) and carefully move the monocular fore or aft until the eyecup comfortably seals around the eye. Readjust the helmet straps as required for vertical adjustment.
- d. Turn power switch to ON. Adjust the tilt by using the tilt adjustment lock knob (or tilt adjustment lever on metal mount) until you obtain a comfortable viewing angle.

NOTE: The sharpest image will be observed only when the objective lens and eyepiece lens are properly focused.

- e. Rotate the diopter adjustment for the clearest view of the image intensifier screen.
- f. Adjust the eye relief distance by depressing the side buttons (or press down on side lever on metal mount) and sliding monocular fore or aft to obtain a full field-of-view of the image. Reset the diopter adjustment for best image.
- g. Adjust the objective lens focus while observing an object until the sharpest image is obtained.

- h. To flip up, grasp the helmet tilt and flip-up assembly and rotate upward and rearward until the latch is firmly engaged.

WARNING

THE MONOCULAR WILL NOT BE TURNED OFF AUTOMATICALLY WHEN FLIPPED UP. THE MONOCULAR MUST BE TURNED OFF BY THE POWER SWITCH.

- i. To flip down, grasp the helmet tilt and flip-up assembly and rotate downward and forward until the latch is firmly engaged.
 - j. Turn the power switch to the ON position to resume viewing.
3. Start the vehicle. Refer to the applicable vehicle TM for proper starting procedures.
 4. Operate vehicle wearing NVGs.
 - a. Following supervisor's instructions to navigate selected route.
 - b. Operate at reduced speed.
 5. Perform initial setup procedures for the DVE. (DO NOT attempt to operate vehicle using both the NVGs and the DVE. Remove NVGs FIRST.
- NOTE:** Before powering up the unit, ensure that the following control positions are as indicated in the following steps.

WARNINGS

BEFORE OPERATING THE VEHICLE ENSURE THAT THE DVE AZIMUTH AND ELEVATION CONTROLS ARE IN THE LOCKED POSITIONS. THIS WILL ENSURE THAT THE DVE IS LOOKING STRAIGHT AHEAD WHEN OPERATING THE VEHICLE. MANUALLY VERIFY FORWARD AND LOCK POSITION PRIOR TO OPERATING THE VEHICLE.

HELMETS MUST ALWAYS BE WORN WHEN DRIVING WITH THE DVE INSTALLED. THE DVE DISPLAY SHOULD BE REMOVED FROM ITS MOUNT WHEN NOT IN USE FOR EXTENDED DRIVING OPERATIONS TO MINIMIZE THE RISK OF HEAD STRIKE INJURIES.

- a. Rotate Sensor Assembly azimuth and elevation to straight ahead and level 00 detent positions.
 - b. Set DVE POWER switch to OFF (down position).
 - c. Set VIDEO switch to SENSOR (up position).
 - d. Set POLARITY switch to WHT-HOT (up position).
 - e. With DISPLAY BRIGHTNESS control turned fully ccw, rotate knob approximately ¼ turn cw.
 - f. Set SENSOR LEVEL and SENSOR GAIN controls to full ccw (AUTO) detent position.
6. Place DVE into operation.
 - a. Set POWER to ON position (up). Allow 5 minutes for system electronics to stabilize for maximum image clarity.
 - b. Leave the VIDEO switch in the SENSOR (up position) for sensing input from the Sensor Assembly to the display. For external input to display, set switch to EXT (down position).
 - c. Adjust the seat height and/or Display module to place the display at eye level.
- NOTE:** If the display becomes degraded while driving the vehicle, such as the presence of dead pixels and/or video noise that prevents the driver from performing his/her mission, then immediately bring the vehicle to a safe stop to avoid a collision. If the problem cannot be fixed, report the situation to higher level of maintenance.
- d. Adjust the DISPLAY BRIGHTNESS control until the scene brightness is suitable for operator viewing.

- e. Select either the AUTO LEVEL or the MANUAL LEVEL position.
- f. Adjust the SENSOR GAIN control to automatic or manual position. The AUTO GAIN mode should normally be used while driving the vehicle.

WARNINGS

THE AUTO LEVEL AND AUTO GAIN MODES DO NOT REACT INSTANTLY TO RAPIDLY CHANGING SCENERY (SHADE TO SUN, SUN TO SHADE). THE AUTO LEVEL AND AUTO GAIN MODES REQUIRE ONE OR TWO SECONDS TO COMPENSATE. THE AUTOMATIC GAIN AND LEVEL FEATURES WILL ADJUST FASTER THAN MANUAL ADJUSTMENTS. IF NECESSARY, SLOW VEHICLE.

THERE ARE TWO SHORT PERIODS EACH DAY CALLED CROSSOVER PERIODS OR DIURNAL CYCLE WHEN MOST NATURAL OBJECTS ARE ABOUT THE SAME TEMPERATURE. THIS IS WHEN THEY HAVE COOLED DOWN AT NIGHT AND AS THEY ARE HEATING UP IN THE EARLY MORNING. SINCE OBJECTS ARE NEAR THE SAME TEMPERATURE, THERE IS NOT MUCH TEMPERATURE DIFFERENCE FOR THE DVE TO USE, DEGRADING THE IMAGE DISPLAY QUALITY. THIS IS ALSO WHAT HAPPENS WHEN A HEAVY RAIN MAKES ALL NATURAL OBJECTS CLOSE TO THE SAME TEMPERATURE.

- g. Set scene POLARITY switch to either WHT-HOT (up position) or BLK-HOT (down position).
 - h. Set azimuth position by rotating Pan/Tilt Mechanism (PTM) to desired setting. Lock azimuth-locking mechanism.
 - i. Set elevation position to desired position. Lock elevation-locking mechanism.
7. Maneuver vehicle while relying on DVE for terrain negotiation.
- a. Operate the vehicle while monitoring the DVE screen.
 - b. Adjust vehicle speed as necessary while DVE is making auto adjustments to conditions.
 - c. Exercise increased caution when operating vehicle, using DVE for navigation.
8. Shutdown DVE.
- a. Press FORWARD POSITION switch.
 - b. Visually verify sensor is in the straight ahead and level position.
 - c. Set SENSOR LEVEL and GAIN controls to full ccw (AUTO) detent position.
 - d. With the DISPLAY BRIGHTNESS control turned fully ccw, rotate the knob approximately $\frac{1}{4}$ turn cw.
 - e. Set POLARITY switch to WHT-HOT (up) position.
 - f. Set VIDEO switch to SENSOR (up) position.
 - g. Set POWER switch to OFF position (down).
 - h. Swing the DVE viewer screen up and out of view.
9. Shutdown vehicle. Refer to vehicle TM for proper shutdown procedures.

Evaluation Preparation: Setup: Provide for the Soldier a DVE-equipped vehicle in operational condition and ready for operation.

Brief Soldier: You are required to prepare the vehicle for operation. You are also required to prepare the DVE system for operation. Once both vehicle and system are operational, you are to operate the vehicle while relying on the DVE for navigation over a designated route during periods of severe limited visibility or at nighttime. You are to complete this task without injury to personnel or damage to equipment.

Performance Measures

1. Performed PMCS.

GO NO-GO

Performance Measures

	<u>GO</u>	<u>NO-GO</u>
2. Prepared AN/PVS-14s for operation.	_____	_____
3. Stared vehicle.	_____	_____
4. Operated vehicle while relying on NVGs for terrain negotiation.	_____	_____
5. Performed initial set up of DVE.	_____	_____
6. Placed DVE into operation.	_____	_____
7. Operated vehicle while relying on DVE for terrain negotiation.	_____	_____
8. Shutdown DVE.	_____	_____
9. Shutdown vehicle.	_____	_____

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.

References**Required**

TM 11-5855-306-10
TM 11-5855-311-12&P-2

Related

TM 9-2320-366-10-1
TM 9-2320-366-10-2

Perform Hasty/Self-Recovery of a Wheeled Vehicle**551-88M-1661**

Conditions: Given a mired vehicle (with or without a winch), fiber rope, chains, timber, BII, stakes, shackles, and applicable TM (-10 series), hearing protection, work gloves, and assistance from others as needed.

Special Conditions: Vehicle self-recovery is a two-person job.

Standards: You are to recover the vehicle so that it can be operated under its own power without injury to personnel or damage to equipment.

Performance Steps

1. Conduct a Hasty recovery by using a like vehicle (front recovery, no winching).
 - a. Disabled vehicle operator stays in cab and directs assistant driver (or VC) to dismount and connect tow chain to towing (recovery) vehicle tow pintle.
 - b. Disabled vehicle operator motions towing vehicle operator to begin slow movement. to get the vehicles rolling, then on to a safe location (rally point).
 - c. Disabled vehicle operator controls disabled vehicle while being towed to rally point.

WARNING

HANDLING A TOW BAR REQUIRES TWO PERSONS (APPROXIMATELY 100-POUND LIFT). FAILURE TO COMPLY MAY CAUSE INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- d. Once at the safe location (rally point), disabled vehicle operator and assistant disconnect tow chain and connect tow bar for further recovery.
2. Attempt to self-recover the vehicle using the Central Tire Inflation System (CTIS) in EMERGENCY mode. If unsuccessful, continue as follows for self-recovery using the self-recovery winch.

WARNING

WEAR HEAVY LEATHER-PALMED WORK GLOVES WHEN HANDLING CABLE. CABLES CAN BECOME FRAYED OR CONTAIN BROKEN WIRES. NEVER LET MOVING CABLE SLIDE THROUGH HANDS, EVEN WHEN WEARING GLOVES. FAILURE TO COMPLY MAY RESULT IN INJURY TO PERSONNEL.

Performance Steps

3. Self-recover vehicle by using the self-recovery winch (SRW) (front or rear recovery).

- a. Shutdown engine.
- b. Spool cable to front of vehicle.
 - (1) Remove retaining pin (1), pin (2), and roller (3) from rear roller support (4).
 - (2) Remove cable (5) from rear roller support (4).

NOTE: Install retaining pin so that clasping end is toward curbside of vehicle.

- (3) Install roller (3) in rear roller support (4) with pin (2) and retaining pin (1).
- (4) Remove cable (5) from rear cable pulley (6).
- (5) Remove cable (5) from rear cable guide (7) on 15K SRW (8).
- (6) Position cable (5) toward front of vehicle.
- (7) Install cable (5) through front cable guide (9) on 15K SRW (8).
- (8) Install cable (5) through cable guide (10) behind fuel tank (11).
- (9) Install cable (5) through front cable pulley (12).
- (10) Remove retaining pin (13), pin (14), and roller (15) from front roller support (16).
- (11) Install cable (5) through front roller support (16).

NOTE: Install retaining pin so that clasping end is toward curbside of vehicle.

- (12) Install roller (15) on front roller support (16) with pin (14) and retaining pin (13).
- c. Direct assistant spool cable to rear of vehicle.
 - (1) Remove retaining pin (13), pin (14), and roller (15) from front roller support (16).
 - (2) Remove cable (5) from front roller support (16).

NOTE: Install retaining pin so that clasping end is toward curbside of vehicle.

- (3) Install roller (15) on front roller support (16) with pin (14) and retaining pin (13).
- (4) Remove cable (5) from front cable pulley (12).
- (5) Remove cable (5) from cable guide (10) behind fuel tank (11).
- (6) Remove cable (5) from front cable guide (9) on 15K SRW (8).
- (7) Position cable (5) toward rear of vehicle.
- (8) Install cable (5) through rear cable guide (7) on 15K SRW (8).
- (9) Install cable (5) through rear cable pulley (6).
- (10) Remove retaining pin (1), pin (2), and roller (3) from rear roller support (4).
- (11) Install cable (5) through rear roller support (4).
- (12) Install roller (3) in rear roller support (4) with pin (2) and retaining pin (1).

WARNING

ENSURE LINE PULL DOES NOT EXCEED CAPACITY OF 15K SELF-RECOVERY WINCH (SRW). FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY OR DEATH TO PERSONNEL.

Performance Steps

- (13) Position 15K SRW clutch control lever (17) to DISENGAGED.
- (14) Pull out cable, attach the snatch block, then attach hook of snatch block to towing vehicle towing pintle. Pay out enough cable to attach end of mired vehicle winch cable to mired vehicle front bumper tow clevis.

CAUTION

Do not attach cable to any towing vehicle that is more than approximately 15 degrees away from a straight 15K Self-Recovery Winch (SRW) pull. Failure to comply may result in damage to equipment.

- (15) Position 15K SRW clutch control lever (17) to ENGAGED.
- (16) Position PTO switch (18) to on.
- (17) Position winch switch (19) to on.
- (18) Hold WINCH IN/OUT switch (20) in the WINCH IN position until vehicle is recovered.
- (19) Release WINCH IN/OUT switch (20).
- (20) Pull out SYSTEM PARK control (21).
- (21) Remove snatch block from towing vehicle and stow.
- (22) Hold WINCH IN/OUT switch in the WINCH IN position to reel in cable until cable socket contacts rollers.
- (23) Position winch switch to off.
- (24) Position PTO switch to off.

Evaluation Preparation: Setup: Provide for the Soldier a mired vehicle with a winch, assistance from other Soldiers, and work gloves.

Brief Soldier: You are to perform a self-recovery of your vehicle using the self-recovery winch.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Performed hasty vehicle recovery.	—	—
2. Attempted to self-recover the vehicle using the Central Tire Inflation System (CTIS) in EMERGENCY mode.	—	—
3. Self-recovered the M1083 series vehicle using the self-recovery winch.	—	—

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.

References**Required**

TM 9-2320-366-10-1

TM 9-2320-366-10-2

Related

FM 4-01.45

FM 4-30.31

FM 5-125

FM 21-305

TM 9-243

Operate Vehicle in a Contaminated Area**551-88M-1664**

Conditions: You are the operator of a tactical wheeled vehicle required to support a convoy mission traveling through a contaminated area. You and your vehicle will be exposed to chemical agents. Given a mission-ready tactical wheeled vehicle, an M40A1 protective mask, protective clothing, and vehicle-mounted M11 or M13 Decontamination Apparatus, and either an M291 or an M258A1 Skin Decontamination Kit.

Standards: Prior to entering a suspected contaminated area, you are to assume a MOPP level 4 posture. You are to recognize and react to all CBRN hazards while operating your vehicle within the contaminated area. Upon exiting the contaminated area you are to perform skin decontamination, a wipe-down of your personal equipment and then an operator's spray-down of vehicle components without succumbing to the effects of the contaminants. Decontamination procedures performed are in preparation for unit deliberate decontamination.

Performance Steps

1. Prepare for entering a contaminated area.
 - a. Stop the vehicle.
 - b. Don protective mask and protective clothing (assume a MOPP 4 posture).
 - c. Ensure that M8/M9 paper is placed on clothing and equipment.
 - d. Ensure that chemical alarms, if available, are serviced and mounted on the vehicle.
 - e. Ensure M11 or M13 Decontamination Apparatus (DAP) is serviced, filled, and mounted on vehicle.
 - f. Acquire an M291 or M258A1 kit.
2. Exercise precautions to prevent contamination.
 - a. Use a hard surface road if available.
 - b. Operate the vehicle safely through the contaminated area.
 - c. Avoid unnecessary splashing if roads are muddy.
 - d. Guard against splashes from tree branches.
 - e. Move through the area at extended intervals if in a convoy.
 - f. Move through the area, as quickly as all safety rules will allow.

WARNING

USE EXTREME CAUTION AT ALL TIMES WHEN HANDLING DS2. DO NOT MIX DS2 AND STB BECAUSE IT WILL CAUSE A FIRE. DO NOT ALLOW DS2 TO SPRAY ON PERSONNEL OR PROTECTIVE CLOTHING. DS2 IS A COMBUSTIBLE SOLUTION. SEVERE CHEMICAL BURNS CAN RESULT IF PERSONNEL FAIL TO OBSERVE ALL SAFETY PRECAUTIONS. DS2 CAN SEVERELY INJURE EYES AND SKIN, AND IF INHALED, CAN CAUSE ILLNESS. DS2 CAN DAMAGE THE NBC PROTECTIVE OVERGARMENT. LONG-TERM CONTACT WITH DS2 CAN DAMAGE THE NBC PROTECTIVE GLOVES, HOOD, AND OVERBOOTS.

Performance Steps

3. Decontaminate self, vehicle, and equipment (immediate decontamination).
 - a. Proceed as directed to the decontamination point upon leaving contaminated area.
 - b. Report reactionary indication of M8 detector paper to supervisor.
 - c. Perform skin decontamination using M258A1 or M291 Kits.
 - d. Perform personal wipe-down (personal equipment) (using M291 Kit).
 - e. Perform operator's spray-down (vehicle components needed to operate until unit deliberate decontamination can be affected).

Evaluation Preparation: Setup: Provide for the Soldier the environment requiring precautions taken in a chemically contaminated area. Setup will include vehicle, protective clothing, mask, and route information requiring operation in a contaminated area.

Brief Soldier: You are required to operate your vehicle within a chemically contaminated area. You are to take the necessary precautionary measures that will allow your safe passage without succumbing to the effects of a chemical agent. Your protective clothing and protective mask are provided. You are to perform a skin decontamination, personal wipe down and operator's spray-down without injury as a result of exposure to chemical agents.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Prepared for entering a contaminated area.	—	—
2. Exercised precautions to prevent contamination while operating in a contaminated area.	—	—
3. Decontaminated exposed skin, personal equipment, and vehicle components (immediate decontamination).	—	—

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.

References

Required

TM 3-4230-204-12&P
 TM 3-4230-216-10
 TM 3-4230-229-10

Related

FM 3-11
 FM 3-11.5
 FM 21-305

Subject Area 8: Convoy Execution/Defense

Operate a Vehicle in a Convoy**551-88M-1359**

Conditions: As a vehicle operator in a contemporary operating environment (COE), threat environment, given a convoy briefing by the convoy commander, a mission-ready tactical wheeled vehicle, load-bearing vest (LBV), with Kevlar, protective mask, and hearing protection. Vehicles have not been marshaled into order of march for convoy. Task must be performed under the march unit commander's supervision.

Special Conditions: Convoy is operating in a COE tactical environment. Defensive preparations are applicable. "Mission-ready vehicle" is defined as a vehicle that has been hardened as appropriate, has all preventive maintenance checks completed and is in operational condition. This includes any installed communications or navigation equipment. and armaments (as applicable). If the convoy column is not divided into serial/march units the convoy commander will be issuing authority for all commands.

Standards: Operate the vehicle according to specific instructions from the convoy or serial/march unit commander. Exercise heightened situational awareness by performing required scanning procedures to detect enemy threats to convoy during convoy movement. Correctly maintain established convoy interval, speed and vehicle position within the convoy. Perform all at-halt checks. Correctly react to and relay any hand and arm signals used during the convoy. Perform all requirements without injury to Soldiers or damage to the equipment.

Performance Steps

1. In the staging area, move the vehicle into position according to the convoy order of march.
 - a. Refer to the vehicle TM for starting procedures.
 - b. Follow the ground guide to maneuver vehicle into position.
 - c. Shutdown vehicle per the TM (unless told otherwise).
2. Conduct convoy pre-departure checks.
 - a. Conduct a communications check (if so equipped).
 - b. Identify by bumper number, the vehicles immediately ahead of and behind your vehicle in the convoy column.
 - c. Check load security. Adjust tiedown devices as needed.
 - d. Check security of all stowage compartments.
 - e. Conduct sensitive items check.

NOTE: Convoy commander or tactical standing operating procedure (TACSOP) may dictate specific items.

- f. Ensure that the assigned weapon is loaded/unloaded according to the SOP or convoy commander's guidance.
- g. Ensure that all forms required are present with the required signatures in the equipment records folder.
 - (1) DA Form 5988-E (Equipment Maintenance Inspection worksheet).
 - (2) DD Form 518 and SF Form 91 (accident forms).
 - (3) Any cargo load forms required.
 - (4) DD Forms 626 and 836 (hazardous cargo only).
 - (5) DA Form 5987-E (Motor Equipment Dispatch).

Performance Steps

3. Start the vehicle on signal or order from convoy commander/serial/march unit commander.
4. If cargo vehicle is loaded, start off slowly without placing undue strain on vehicle. Recover wheel chock and set the vehicle in motion upon signal or order from the convoy commander or serial/march unit commander.
5. Maintain the convoy speed and vehicle interval during movement.
 - a. Maintain visual contact with the vehicle immediately in front of and behind your vehicle (if weather permits)
 - b. Track the vehicle in front and the trailing vehicles to adjust your speed, interval and position.
 - c. Slow down when approaching curves, especially if heavily loaded, to prevent the vehicle from overturning.
 - d. Allow extra stopping distance if vehicle is heavily loaded.
6. Maintain a high state of situational awareness.
 - a. Perform side-to-side scanning (9 o'clock to 3 o'clock without an assistant driver).
 - b. Perform side-to-side scanning (9 o'clock to 1 o'clock with an assistant driver).
 - c. Watch for threats to the convoy such as:
 - (1) Suspicious individuals or groups along roadway.
 - (2) Unexploded improvised explosive devices (IEDs).
 - (3) Abandoned vehicles along the roadway.
 - (4) Dead animals along the roadway.
 - (5) Overpasses over the route of march.
 - (6) Built-up areas, especially multi-story buildings close to the roadway.
 - (7) Intersections.
 - d. Respond to threats in accordance with unit TACSOP.
 - e. Monitor vehicle instrument panel gauges, listen, and be aware of any unusual vehicle performance while moving.
7. Acknowledge hand and arm signals by adjusting vehicle speed, interval and position during movement.
 - a. Refer to the vehicle TM.
 - b. Relay hand-and-arm signals to the trailing vehicle drivers.
8. During halt, position the vehicle as directed.
9. During halt, shutdown the vehicle (unless told otherwise for the mission) (if this method is used).
 - a. Refer to the vehicle TM for proper shutdown procedures.
 - b. Chock the vehicle wheels as necessary.
10. During halt, perform during-operation maintenance checks on the vehicle and trailer (if so equipped). Correct of record any faults noted during movement.
 - a. Record any uncorrectable faults.
 - b. Notify the convoy chain-of-command if the vehicle becomes non-mission capable (NMC).

Performance Steps

11. As directed, move the vehicle into the assembly area.
 - a. Follow the ground guide into the assembly area (if guide is available).
 - b. Follow the lead vehicle into the assembly area (as directed if the guide is not available).
12. Once convoy has closed on destination and or SP, perform after-operation preventive maintenance checks.
 - a. Refer to the vehicle TM for proper procedures.
 - b. Follow additional guidance from the supervisor or serial/march unit commander.

Evaluation Preparation: Setup: Set up the convoy with six vehicles at the starting point. Select a route for the convoy, which will not interfere with the regular traffic. Use a noncommissioned officer (NCO) trained in convoy procedures to act as the convoy commander. Have the convoy commander brief the Soldier on convoy operations.

Brief Soldier: Tell the Soldier to follow the instructions given in the convoy commander's briefing.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Moved the vehicle into position in according to the convoy order of march.	—	—
2. Conducted final pre-departure checks.	—	—
3. Started the vehicle on signal or order from the serial/march unit or convoy commander.	—	—
4. Set the vehicle in motion upon signal or order from serial/march unit or convoy commander.	—	—
5. Maintained convoy speed and interval during movement.	—	—
6. Maintained a high state of situational awareness during movement.	—	—
7. Acknowledged hand and arm signals by adjusting vehicle speed, interval and position.	—	—
8. During halt, positioned the vehicle as directed.	—	—
9. During halt, shutdown the vehicle (unless told to do otherwise).	—	—
10. During halt, performed all during-operation maintenance checks on the vehicle and trailer.	—	—
11. During halt, checked security and condition of load (if loaded). <ol style="list-style-type: none">a. Checked tiedown devices for security.b. Ensured that the load had not shifted during movement.c. Notified the convoy chain of command if the load was damaged during movement.d. Accounted for sensitive items prior to halt area departure.	—	—
12. Resumed convoy movement on signal or order from the convoy commander. (repeated steps 1 through 7)	—	—
13. As directed, moved the vehicle into the assembly area.	—	—

Performance Measures**GO** **NO-GO**

14. Shutdown the vehicle at the destination (unless told otherwise)

15. Performed after-operation maintenance checks.

a. Referred to the TM.

b. Turned in the vehicle dispatch, maintenance worksheets, and load documentation as required to the supervisor or convoy chain of command.

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.

References**Required**

FM 21-305

Related

FM 55-15

FM 55-30

TM 9-2320-272-10

TM 9-2320-366-10-1

TM 9-2320-366-10-2

TM 9-2320-392-10-1

TM 9-2320-392-10-2

Read Strip Maps

551-88M-1410

Conditions: Provided a prepared strip map, protractor, route instructions, and mission information.

Standards: You are to read and interpret the strip map by identifying all plotted critical information including, start point, check/critical points, release point, and primary and alternate route designations applicable to your mission.

Performance Steps

1. Identify strip map symbols (see Figure 3-36a and Figure 3-36b).
 - a. Primary road(s).
 - b. Secondary road(s).
 - c. Other surfaced road(s).
 - d. Dirt road(s).
 - e. Trail(s).
 - f. Impassable section of road(s).
 - g. Main supply road(s).
 - h. Single-track railroad, broad gauge.
 - i. Single-track railroad, narrow gauge.
 - j. Double-track railroad, standard gauge.
 - k. Crossings (see Figure 3-37).
 - l. Bridges (see Figure 3-38).
 - (1) Highway.
 - (2) Railroad.

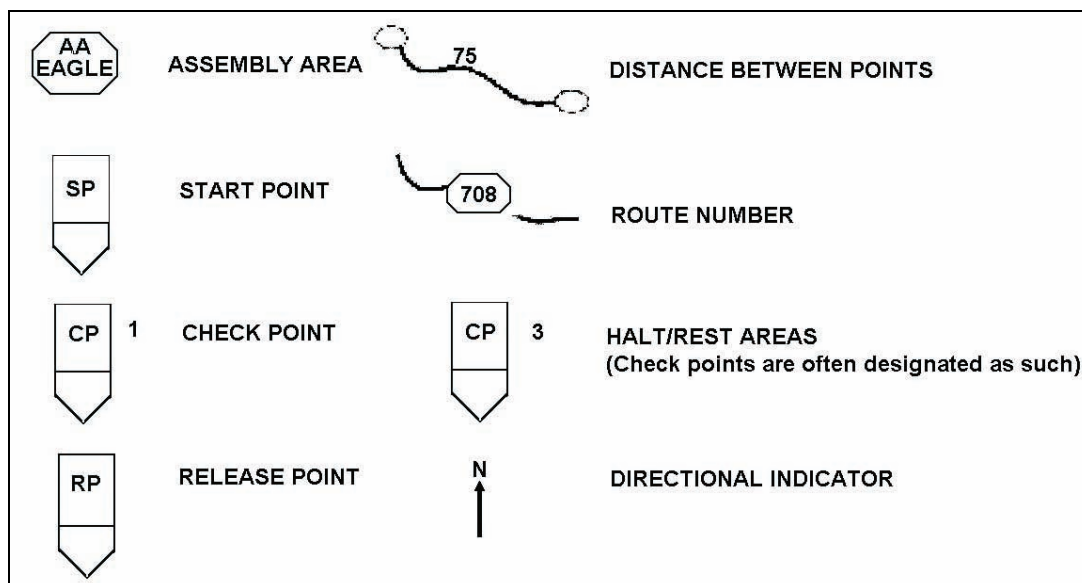


Figure 3-36a. Strip Map Symbols

Performance Steps

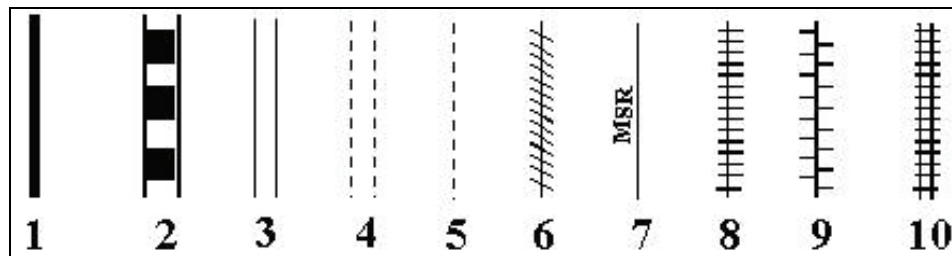


Figure 3-36b. Strip Map Symbols

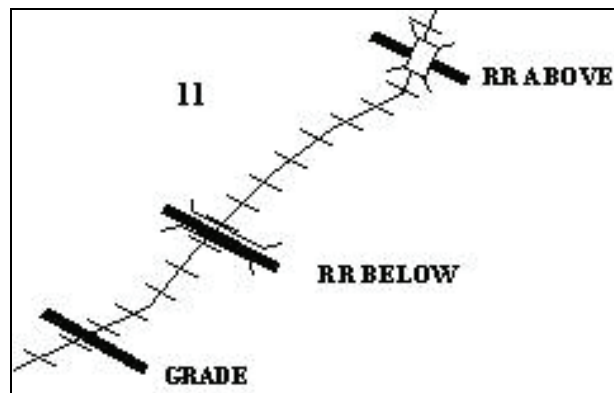


Figure 3-37. Crossings

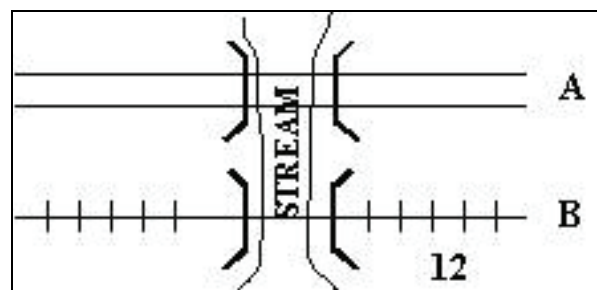


Figure 3-38. Bridges

2. Identify mission information.

- a. Start Point (SP). This is the point established as the beginning of the convoy's timeline tracking. May be the start of the convoy from origin or a point along the designated route in which convoy elements are to merge for the mission.
- b. Release Point (RP). This point is designated as "release of convoy responsibility of all or part of the convoy elements." May or may not be convoy destination.
- c. Check point or critical point (CP). This is a point along the convoy route that may serve as a navigational aid, point of possible enemy ambush (critical point) or designated as a halt point. This designation may apply to points along route identifying narrow roadways, or other conditions that warrant special concern by convoy vehicle drivers.

Performance Steps

- d. Mileage between routes. Distance (Kilometers/Miles) between check points or critical points along the convoy route, a navigational aid.
- e. Routes and route numbers. Usually normal road or highway numbers that are used to delineate the route plotted for convoy travel.
- f. Major cities and towns. Usually indicated on route to ensure awareness, navigation checking or, if a specific location within the city or town is shown, may be a checkpoint along the convoy route.
- g. Rest and service areas (halt areas). Usually designated as one of the checkpoints or may be an additional point along the route due to availability of space to accommodate vehicles.
- h. Primary and alternate routes. Both should be indicated on map and strip map. Usually colored differently or have a specific name assigned.
- i. Unit designations (as applicable). Indicates a unit(s) that are located along route or could be one of the destinations for convoy.
- j. Legend information. Definitive information regarding the strip map in regards to the mission or unit.

NOTE: If there are any additional unit-specific symbols or information applicable to the mission, it should be identified on the strip map and defined in the legend.

Evaluation Preparation: Setup: In a classroom, provide for the Soldier a completed strip map, route instructions, mission information, protractor, paper and pencil.

Brief Soldier: You are to read over the strip and identify all critical points and information deemed necessary by the mission information by either indicating on paper or verbally according to instructor guidance.

Performance Measures**GO** **NO-GO**

- 1. Identified strip map symbols.
 - a. Primary road(s).
 - b. Secondary road(s).
 - c. Other surfaced road(s).
 - d. Dirt road(s).
 - e. Trail(s).
 - f. Impassable section of road(s).
 - g. Main supply road(s).
 - h. Single-track railroad, broad gauge.
 - i. Single-track railroad, narrow gauge.
 - j. Double-track railroad, standard gauge.
 - k. Crossings.
 - l. Bridges.
 - (1) Highway.
 - (2) Railroad.

Performance Measures
GO **NO-GO**

- | | |
|---|-------------|
| 2. Identified mission information. <ol style="list-style-type: none"> a. Start Point (SP). b. Release Point (RP). c. Check point or critical point (CP). d. Mileage between routes. e. Routes and route numbers. f. Major cities and towns. g. Rest and service areas (halt areas). h. Primary and alternate routes. i. Unit designations (as applicable). j. Legend information. | <hr/> <hr/> |
|---|-------------|

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.

References
Required

FM 1-02
FM 3-25.26
FM 21-31
FM 21-305

Related

Engage Stationary Targets With Vehicle-Mounted, Crew Served Weapon**551-88M-1655**

Conditions: You are assigned as a crew-served weapon gunner. Provided a mission-ready wheeled vehicle with operator, a mounted M240B Machine Gun with at least 100 rounds of ammunition, integrated vehicle intercom system, series of designated target engagement areas and lane to maneuver, guidance from range supervisor on a "weapons hot" range via the communications system on engaging targets, LCE w/Kevlar and hearing protection; you have already performed all function checks and the weapon is loaded and prepared to engage targets. Vehicle operator maintains a steady speed for engagement.

Special Conditions - This is a process-scored task to be performed under strict supervision on a controlled range. Supervisory Chain of Command **MUST** have completed a Composite Risk Assessment of this task to identify all hazards and control measures to mitigate execution and obtained proper command approval/signatures.

Standards: Engage all designated targets using the M240B, 7.62mm MG by using proper weapons attitude and firing position; use a fixed, traversing, searching, or traversing and searching method of firing. Muzzle awareness is strictly maintained at all times during engagement and observation and adjustment of fires to target is maintained.

Performance Steps

1. Perform a function check of the M240B Machine Gun.
 - a. Place safety lever to the "F" position.
 - b. Lock the bolt to the rear position by pulling the cocking handle to the rear.
 - c. Push cocking handle to the forward position until it locks in the forward position.
 - d. Place safety lever to the "S" position.
 - e. Depress the trigger; the bolt should not fall.
 - (1) If the bolt falls, notify supervisor. The machine gun is inoperative.
 - (2) If the bolt does not fall, continue to the next step.
 - f. Place safety lever to the "F" position.
 - g. Pull and hold the cocking handle to the rear.
 - h. While holding the cocking handle to the rear, depress the trigger, and ease the bolt to the forward and locked position.
2. Load the M240B Machine Gun.
 - a. Clear the weapon.
 - (1) Place safety to the "F" position.
 - (2) Charge the weapon.
 - (a) Pull the cocking handle to the rear, locking the bolt in the rear position.
 - (b) Push the cocking handle to the forward and locked position.
 - (3) Place safety to the "S" position.
 - (4) Open the cover assembly.
 - (a) Press in and hold the feed cover latches.
 - (b) While holding the latches, lift up on the cover assembly.
 - (5) Remove any ammunition if it is present.
 - (6) Raise the feed tray.
 - (7) Inspect the chamber to ensure no ammunition is present.
 - (8) Lower the feed tray.
 - (9) Place safety to the "F" position.

Performance Steps

- (10) Pull and hold cocking handle to the rear.
- (11) While holding the cocking handle to the rear, depress the trigger and ease the bolt forward to the closed and locked position.
- b. Load ammunition.

NOTE: Position the open side of links in the down position.

- (1) Place link belt on feed tray with the first round against the cartridge stop and tip of round pointing towards the barrel.
- (2) Close the cover assembly ensuring the latches lock into place.

CAUTION

Make sure round does not move away from cartridge stop during closing and latching of cover.

- 3. Assume a suitable firing position. Based on your situation, assume the position that will allow you to observe and engage targets, yet minimize exposure to enemy fire.
- 4. Fire the weapons using the correct sight picture.
 - a. Sight alignment. Center the front sight post in the peep sight.
 - b. Focus of the eye. Place the eye directly on line with the center of the rear sight. Focus on the tip of the front sight post. The natural ability of the eye to center objects in a circle and to seek the point of greatest light (center of the peep sight) aids in providing correct sight alignment.
 - c. Sight picture. Center the target over the front sight post.
- 5. Fire the weapon in three round bursts at a rate of fire appropriate for target size. Use correct trigger manipulation: Pull straight to the rear and release.
- 6. Apply correct engagement technique based on target types.
 - a. Fixed fire. This type of fire is delivered against a point target when the depth and width of the beaten zone will cover the target. Only one aiming point is necessary to cover the target with fire.
 - b. Traversing fire. This type of fire is distributed in width by successive changes in direction. This means moving the muzzle of the weapon to the left or right to distribute fire laterally. To make minor changes in direction, shift the shoulder's to the right or left to select successive aiming points throughout the width of the target area. For major changes, move the elbows and align the body to remain directly behind the weapon.
 - c. Searching fire. This type of fire is distributed in depth by successive changes in elevation. This means moving the muzzle of the weapon up or down to distribute fire in depth. Select successive aiming points in depth throughout the target area.

Performance Steps

- d. Traversing and Searching Fire. This type of fire is distributed in width and depth by successive changes in direction and elevation. Combining traversing and searching fire provides good coverage of the target. Adjustments are made in the same manner as described for traversing and searching fire. This means moving the muzzle of the weapon to the left or right to distribute fire laterally. To make minor changes in direction, shift the shoulders to the right or left to select successive aiming points throughout the width of the target area. For major changes, move the elbows and align the body to remain directly behind the gun.
7. Use observation of fire and adjustment to place effective fire on the target.
 - a. Observation of fire. Observe the burst of fire by noting the strike of the rounds in the target area, the tracers in flight, or, in the case of the 10-meter range, the holes made in the target.
 - b. Adjustment of fire. Use the adjusted aiming point method to quickly adjust fires without making a sight adjustment. If the initial burst misses the target, rapidly select a new aiming point the same distance from the center of impact of the initial burst but in the opposite direction. Fire a second burst.
8. Use correct application of fire to engage specific targets.
 - a. Point target. Engage point targets with fixed fire.
 - b. Area target. Initially, aim at the midpoint of the target area. Traverse and search to either flank, then back to the opposite flank.
 - c. Linear target. Initially, aim at the midpoint of the target. Traverse fire to one flank and then to the other to cover the entire target.
 - d. Deep target. Initially aim at the midpoint of the target unless another portion of the target is more critical or presents a greater threat. Search down the one aiming point in front of the near end and back up to one aiming points beyond the far end.

Evaluation Preparation: Provide for the Soldier a wheeled vehicle platform with driver. Vehicle has a mounted M240B Machine gun. Task will start with the Soldier in uniform, and in positive control of the weapon. You are to perform a function check of the weapon then load the weapon. You will engage targets when the vehicle has reached the designated start of the engagement area at required speed and you have been given the command to engage targets.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Performed a function check on the M240B Machine Gun.	—	—
2. Loaded the M240B Machine gun.	—	—
3. Assumed a suitable firing position.	—	—
4. Fired the weapons using the correct sight picture	—	—
5. Fired the weapon in three round bursts at a rate of fire appropriate for target size.	—	—
6. Applied correct engagement technique based on target types.	—	—
7. Used observation of fire and adjustment to place effective fire on the target.	—	—
8. Used correct application of fire to engage specific targets.	—	—

Evaluation Guidance: Soldier will perform all weapons controlling functions while engaging stationary targets. Vehicle speed will be 15 mph during engagement. You will receive direct supervision by qualified supervisory or range personnel in the vehicle. You are to begin and end engagement only according to instructions from this person. The Soldier performing this task is NOT evaluated on vehicle operation, or number of targets hit or missed. Determination of success or failure is dependent upon the Soldier's ability to perform a function check and load the weapon prior to firing and proper use of weapons controlling techniques such as weapons attitude and orientation, proper muzzle awareness, and firing techniques during the actual firing of the weapon.

Prior to performing this task the range supervisor or NCOIC will have completed a comprehensive risk assessment and identified all control measures to mitigate execution of task. Proper guidance must be given to vehicle operator to maintain designated vehicle speed and attitude while progressing down range. All personnel MUST be briefed on safety procedures of both the weapon and the operation of the vehicle during this task. All personnel must adhere to any verbal or visual signals to ensure safe execution of task. All range restrictions apply.

Score the Soldier GO if all performance measures are passed. Score the Soldier NO-GO if any performance measure is failed. If the Soldier receives a NO-GO, show the Soldier what was done wrong and how to do it correctly.

References**Required**

FM 3-22.68

Related

DA PAM 385-63

Perform Duties as Serial/March Unit Commander**551-88M-2348**

Conditions: Given the responsibility as serial/march unit commander, a briefing by the convoy commander, enough vehicles to warrant a serial/march unit, maps, material to be transported, and personnel as vehicle drivers.

Standards: Ensure that all pre-departure checks are successfully completed for your vehicles, enforce all safe-driving measures during movement, ensure that your vehicle operators conduct all at-halt checks/duties, and that all drivers complete the required checks/duties at convoy destination prior to release. All procedures are to be performed without injury to personnel or damage to vehicles or equipment.

Performance Steps

1. Perform a composite risk assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Perform pre-departure checks/duties.
 - a. Ensure that before-operations checks have been performed. Check the following:
 - (1) Air hose couplings for proper connection and leakage.
 - (2) Oil and lubrication levels.
 - (3) Cooling systems for proper coolant level and leakage.
 - (4) Brakes.
 - (5) Tires for cuts and general condition.
 - (6) Check batteries for obvious defect (such as cracked case, burnt, broken, or loose battery terminals).
 - b. Check the lineup of vehicles to ensure that march column, regardless of size, have three parts.
 - (1) The head is the first task vehicle of the column in the order of march.
 - (2) The main body of the column follows immediately after the first task vehicle.
 - (3) The trail is the last element of the march column.
 - c. Check to see that vehicles are properly marked as follows:-
 - (1) A blue flag on the front of the first task vehicle.
 - (2) A green flag on the rear vehicle.
 - (3) A black and white flag on the convoy commander or serial commander vehicle.
 - (4) A "convoy follows" sign on the front of the first task vehicle.
 - (5) A "convoy ahead" sign on the rear of the last vehicle.
 - (6) A "convoy commander" sign on the front and rear of the convoy commander's vehicle.
 - d. Select the pacesetter.
 - (1) This is normally an officer or senior noncommissioned officer (SNCO) at the head to ensure that the column is following the proper route.
 - (2) The pacesetter rides in the first vehicle and sets the pace necessary to meet the travel schedule.
 - (3) This officer or SNCO also checks at scheduled points and receives orders or changes in orders.
 - e. Check weapons on the vehicles to make sure they are operational.
 - (1) Correct existing minor deficiencies on the spot.
 - (2) If major deficiencies exist, have the weapon and vehicle returned to the parent unit and request an operational replacement.

Performance Steps

- f. Check to ensure that the sandbags are installed correctly on the floor of the troop-carrying vehicles and on the cab floors of all vehicles.
 - (1) Cover the floors of troop-carrying vehicles with at least a double interlocking layer of sandbags.
 - (2) Cover the cab floors of all vehicles with a double layer of sandbags under the driver's seat.
 - g. Check the cargo to ensure that it is secured and covered correctly.
 - (1) Cover the cargo to protect it from being damaged by prevailing weather conditions.
 - (2) Cover the cargo, if necessary, to deny intelligence information while providing protection from the elements.
 - h. Brief the drivers on the rules of the road, traffic laws and regulations, speed limits, time and distance gaps, routing plans, review schedules, and march discipline.
 - i. Give the signal/order to start the engine.
 - j. Give the signal/order to move out.
3. Enforce the correct driving procedures while the convoy is underway.
 4. Instruct drivers at halt checks/duties.
 - a. Inform the drivers of the details at halts. Review the following:
 - (1) Time, duration, and purpose of convoy operations.
 - (2) The location of the convoy.
 - (3) The duties of personnel during the convoy.
 - b. Control activities of the drivers. Tell the drivers -
 - (1) To inspect their vehicles and loads.
 - (2) To perform at-halt maintenance.
 - c. Check to see that the drivers are performing during-operation checks. Tell the drivers-
 - (1) To perform necessary during-operation checks using the appropriate -10 series technical manual (TM).
 - (2) To check for and have items repaired, fill fluid levels, or adjust drive belts or other items.
 - d. Check the security of the loads.
 - e. Check to see that the area is policed before moving out.
 - f. Give the signal/order to re-form and start engines.
 - g. Give the signal/order to move out.
 5. Perform all required checks/duties at the release point.
 - a. Update the drivers on additional orders/instructions from the convoy commander.
 - (1) Instruct the drivers to comply with the standing operating procedure (SOP) in dispersing their vehicles.
 - (2) Inform the drivers of the time and place to assemble for the return trip.
 - b. Check to see that after-operation checks are performed. Tell the drivers-
 - (1) To perform necessary after-operation checks using the appropriate -10 series TM.
 - (2) To check for and have repaired all discrepancies found, fill fluid levels, or adjust drive belts or other items.
 - c. Recommend disciplinary action for those drivers who violated driving rules during the convoy operation.
 - d. Dismiss drivers.

Evaluation Preparation: Setup: Evaluate this task during a field training exercise or normal training session.

Brief Soldiers: Tell the Soldier he/she will be evaluated on his/her ability to properly perform the duties as a serial/march unit commander.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Performed pre-departure checks/duties.	_____	_____
2. Enforced the correct driving procedures while the convoy was underway.	_____	_____
3. Instructed drivers at halt checks/duties.	_____	_____
4. Performed all required checks/duties at the release point.	_____	_____

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.

References

Required

FM 4-01.30
FM 21-10
FM 21-60
FM 55-30
TM 9-2320-260-10
TM 9-2320-272-10
TM 9-2320-279-10-1
TM 9-2320-279-10-2
TM 9-2320-280-10
TM 9-2320-360-10
TM 9-2320-364-10
TM 9-2320-365-10
TM 9-2320-366-10-1
TM 9-2320-366-10-2

Related

Subject Area 11: Convoy Planning and Operation

Prepare Vehicle for Convoy Operations**551-88M-1658**

Conditions: You are a vehicle operator preparing to conduct operations within a tactical convoy in a contemporary operational environment. Provided a tactical wheeled vehicle (armored or unarmored), BII and materials to harden vehicle (if needed) such as wire mesh, filled sandbags, rubber or fiber mats, wood shoring material, and steel plates, or any other locally available materials that may be used for vehicle hardening; operational vehicle intercom system, crew-served weapon, weapons mount and ammunition, maintenance and dispatch forms, individual field equipment (TA-50 required for mission), tactical radio set with frequencies, or mounted Movement Tracking System (MTS), vehicle load plan, mission load (cargo) or equipment; and mission guidance.

Standards: You have properly configured your vehicle to best suit the upcoming tactical convoy mission by performing all required before-operational maintenance and safety checks on your vehicle and securing an active unit dispatch. If the vehicle is unarmored, you have properly hardened your vehicle by placing protective materials over vital, vulnerable areas such as fuel tanks, in the cab and cargo/passenger areas (as applicable). All preparations have not interfered with the required normal operation of the vehicle and vehicle driver has full freedom of movement for control and maneuvering of vehicle. If vehicle is armored, all doors and hatches are configured according to mission requirements. All communications equipment has been mounted and secured and communications checks have been performed (operator has successfully entered the mission tactical radio net as required). All combat locking mechanisms are placed in the proper configuration to begin mission, as applicable. All individual and crew-served weapons have been properly mounted, loaded (as directed), and are ready for test firing. All individual baggage and vehicle load (cargo) has been loaded and secured (as applicable). If a cargo-carrying vehicle with load, operator possesses all completed load documentation in the equipment records folder as appropriate.

Performance Steps

1. Perform all pre-departure operational and maintenance checks.
 - a. Complete all before-operational preventive maintenance checks on vehicle, and any subsystem such as communications equipment, weapons, mounted night vision devices in accordance with TM, correct deficiencies or refer to proper maintenance level.
 - b. Ensure all completed maintenance, dispatch, and accident forms are present in equipment records folder
 - c. If to be loaded, ensure vehicle load card and load documentation to include DD Form 626 and DD Form 836 are present (HAZMAT loads only) in the equipment records folder. Ensure vehicle is placarded in accordance with TACSOP and as HAZMAT rules require for the specific load.
 - d. Ensure equipment records folder is located in vehicle cab in accordance with unit SOP.
 - e. If vehicle is to be hardened, determine adjusted cargo-carrying capacity of vehicle based on weight of sandbags and other heavy materials used to harden vehicle. Filled sandbags weigh about 40 lbs each. Note the adjusted capacity and record in equipment records folder.
 - f. Ensure that canvas and bow assembly is installed over load to conceal from casual observation (as applicable).
 - g. Ensure all combat locking mechanisms are operating properly and in proper position as appropriate (if installed).
 - h. Mount all individual and crew-served weapons using weapons mounts located throughout the vehicle. Ensure all locks are secured as appropriate to prevent any accidental dismounting.

Performance Steps

- i. Load ammunition (as directed) in crew-served weapon. Ensure spare ammunition containers are located and secured per vehicle load plan.
 - j. Mount (as required) all communications equipment and ensure all items are securely locked to the vehicle. Leave key(s) in the lock while vehicle is occupied to allow for quick removal in case of vehicle rollover or other accident. If the Movement Tracking System or other satellite-based communications/tracking system is installed, ensure that system is powered up and operational.
 - k. Check vehicle intercom system (if installed) to ensure all components are present and in working order.
 - l. If the Driver's Vision Enhancer (DVE) is installed on vehicle, ensure that the system is operational.
 - m. If vehicle is a cargo-carrying vehicle and is to be loaded for mission, ensure that it is loaded according to vehicle load plan by placing large, heavier items on bottom, weight is distributed evenly, and total of load does not exceed vehicle load limitations. Ensure load compatibility prior to loading. Load must be secured properly using appropriate serviceable tiedown devices.
 - n. If vehicle is a prime mover ensure that the trailer or semitrailer is prepared in accordance with items 1a, b, c, d, f, and l above.
 - o. Ensure that convoy control number is displayed on all sides of vehicle in accordance with convoy commander's guidance.
2. Harden the vehicle (vehicle without armor kit).
- a. Ensure all armor kit components are installed properly as required by mission.
 - b. Ensure all combat locks (if installed) are configured as required by SOP for mission.
 - c. If directed, harden the fuel tank by inserting steel plates under the straps.
 - d. Harden vehicle doors using steel plates.
 - e. If possible, place sandbags under the driver and passenger seats of the vehicle
 - f. Cover the sandbags with rubber or fiber mats to prolong the life of the sandbags and to reduce risk of injury from sand and fragments
 - g. Attach steel plate to the cab floor of the vehicle, and cover it with sandbags
 - h. Stack sandbags to the top of the steel plating, using a wood frame to support them
 - i. Attach steel plates to the sides of the beds of troop-carrying vehicles to protect troops.
 - j. Cover the bed of troop-carrying vehicles with steel plate and a double interlocking layer of sandbags
3. Configure armored vehicle cab.
- a. Ensure all armor kit components (doors, access panels, hatches, turret) are installed properly as required by mission.
 - b. Ensure all combat locks (if installed) are configured as required by SOP for mission.
 - c. Ensure that all tools for emergency egress (combat locks) of vehicle are present
4. Report vehicle status to supervisor.
- a. Ensure that all required forms such as maintenance, dispatch and cargo-related forms are readily available for supervisor prior to movement.
 - b. Provide vehicle cab configuration status.
 - c. Provide status of all communications equipment to include vehicle intercom system (if installed).
 - d. Provide status of all night vision devices of both individual and vehicle mounted.
 - e. Provide status of all weapons and ammunition mounted/stored on vehicle.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
3. Configured armored vehicle cabin.	_____	_____
a. Ensured all armor kit components were installed properly as required by mission.		
b. Ensured all combat locks (if installed) were configured as required by SOP for mission.		
c. Ensured that all tools for emergency egress (combat locks) of vehicle were present		
4. Reported vehicle status to supervisor.	_____	_____
a. Ensured that all required forms such as maintenance, dispatch and cargo-related forms are readily available for supervisor prior to movement.		
b. Provided vehicle configuration status.		
c. Provided status of all communications equipment to include vehicle intercom system (if installed)		
d. Provided status of all night vision devices of both individual and vehicle mounted.		
e. Provided status of all weapons and ammunition mounted/stored on vehicle.		
f. Provided maintenance condition status		

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.

References

Required	Related
FM 21-305	
FM 55-30	
TM 9-2320-260-10	
TM 9-2320-272-10	
TM 9-2320-279-10-1	
TM 9-2320-279-10-2	
TM 9-2320-280-10	
TM 9-2320-360-10	
TM 9-2320-364-10	
TM 9-2320-365-10	
TM 9-2320-366-10-1	
TM 9-2320-366-10-2	
TM 9-2330-359-14&P	
TM 9-2330-381-14	

Subject Area 14: Hazardous Cargo Transportation

Transport Hazardous/Sensitive Cargo**551-88M-1659**

Conditions: You are a vehicle operator assigned a mission to transport hazardous/sensitive cargo. As part of a vehicle convoy you are to conceal the load from casual observation throughout the movement. Provided a mission-ready cargo vehicle with or without trailer or tractor-semitrailer combination, hazardous/sensitive cargo, tiedown materials, tarpaulin, blocking and bracing materials (as needed), completed DD Form 626 (Motor Vehicle Inspection (Transporting Hazardous Materials)) and DD Form 836 (Dangerous Goods Shipping Paper/Declaration and Emergency Response Information of Hazardous Materials Transported by Government Vehicles/Containers/Vessels), and Soldiers to assist in loading and grounding guiding as needed. A security force will accompany convoy.

Special Conditions: A mission-ready vehicle is defined as a vehicle with before-operation PMCS completed without any fault or deficiency that would render the vehicle Not-Mission-Capable, with all BII and AAL loaded (as applicable), all maintenance worksheets, accident forms, and active dispatch present in the equipment records folder located in the vehicle cab.

Operator possesses a valid operator's permit with required endorsements to transport hazardous materials and an ammunition handler's card (as required).

Hazardous Cargo Defined - A material or substance capable of posing an unreasonable risk to health, safety, and property when transported.

Hazardous cargo compatibility issues are not-applicable to this task

Composite Risk Assessment - This CRM, when completed by the Soldier's supervisor, should be made available to inform Soldier of identified control measures in place to mitigate risk for this task.

Standards: The hazardous/sensitive cargo has been loaded, secured, concealed, and transported to its destination. At no time during movement was the safety and security of the load compromised by loss of custody, casual observation, improper loading, or vehicle operation. Cargo was off-loaded at destination without injury to personnel or damage to equipment.

Performance Steps

1. Prepare vehicle to transport hazardous/sensitive cargo.
 - a. For shipping hazardous materials, ensure additional vehicle inspections by shipper (DD Form 626) have been performed and deficiencies corrected (as applicable).
 - b. Position vehicle near cargo to be loaded and shutdown engine unless needed to operate onboard MHE. Set vehicle parking brakes and chock vehicle.
 - c. Clean out cargo bed to allow room for cargo to be loaded.
 - d. Ensure tiedown materials are on hand to secure load to vehicle.
 - e. Ensure cargo canvas and bow assembly and any required tarpaulins are available to conceal and protect the cargo during transport. If canvas is installed, remove it for loading
 - f. If load is containerized, check to see that semitrailer hold down devices function properly and are placed in proper configuration to receive container.
 - g. Ensure applicable placarding materials are on hand that match the load characteristics and hazards.
 - h. If necessary, ensure all blocking and bracing materials are on hand to secure load.
 - i. Enforce no smoking within 50 feet and no open flame within 100 feet of load.
 - j. Ensure there are two 10-BC fire extinguishers are present and one is mounted on outside of cab on driver's side and the other is mounted inside cab.

Performance Steps

- k. Ensure any load-specific response equipment is available such as breathing apparatus in case of hazardous chemical loads.
 - l. Prepare vehicle-mounted Material Handling Equipment for operation.
2. Prepare hazardous/sensitive cargo for movement.
- a. Ensure shipper completes DD Form 836 and provides copy to accompany cargo.
 - b. Ensure the load is configured as applicable PRIOR to movement (courier duties if shipping classified items).

CAUTION

Classified material will be prepared for shipment, packaged, and sealed in ways that minimize the risk of accidental exposure or undetected deliberate compromise.

- (1) If the classified material is an inaccessible component of a packageable item of equipment, the outer shell or body can be considered as the inner enclosure provided it does not reveal classified information.
 - (2) If the classified material is an inaccessible internal component of a bulky item of equipment, the outside or body of the item can be considered to be sufficient enclosure provided it does not reveal classified information.
 - (3) If the classified material is an item or piece of equipment that is not easily packageable and the shell of body is classified, it will be concealed with an opaque covering that will hide all classified features.
 - (4) Specialized shipping containers including closed cargo transporters, can be considered the outer wrapping or cover when used.
 - (5) NATO-restricted materials do not have to be double-wrapped when it is transmitted within the United States. The marking "NATO CLASSIFIED" will not appear on the outermost wrapper.
- c. Cover the classified/sensitive cargo to prevent accidental exposure or undetected deliberate compromise.
 - d. Secure load to prevent access to unauthorized personnel throughout custody.

NOTE: If cargo is classified SECRET or TOP SECRET, the cargo must have an attached receipt form to be completed by the recipient and returned to the originator.

- e. Ensure custody receipt is attached to the load.
- f. Establish radio communications link with security team.
- g. Ensure adequate armed security is available and ready for movement.
- h. If cargo is sensitive and considered dangerous, ensure proper placarding it displayed on load-carrying vehicle.

Performance Steps

3. Load cargo onto vehicle/semitrailer.
 - a. If necessary, manipulate MHE into position, lift and place cargo onto vehicle/trailer/semitrailer with heavier items on bottom.
 - b. Secure all cargo items with tiedown devices ensuring no damage to containers.
 - c. Cover the dangerous/sensitive cargo to prevent unauthorized deliberate compromise or casual observation.

NOTE: If cargo is classified SECRET or TOP SECRET, the cargo must have an attached receipt form to be completed by the recipient and returned to the originator.

- d. Ensure custody receipt is attached to the load.
 - e. Establish radio communications link with security team (as applicable)
4. Conduct movement with classified/sensitive cargo.
 - a. Notify security personnel of start of movement.
 - b. Follow designated route to destination.
 - c. Notify chain-of-command as each route checkpoint is passed.
 - d. Maintain positive control of classified/sensitive cargo throughout movement.
 - e. Allow no unauthorized person(s) visual or physical access to cargo during movement.
 - f. Upon reaching destination, relinquish custody of classified/sensitive cargo to authorized personnel with proper identification.
 - g. Obtain authorized signature from recipient on custody receipt (if cargo is classified as SECRET or TOP SECRET).
 - h. Upon return to origin, ensure custody receipt is given to originator (if cargo is classified as SECRET or TOP SECRET).
 - i. Transfer DD Form 836 to recipient of cargo (as applicable).

Evaluation Preparation: Setup: Provide everything stated in conditions statement.

Brief Soldier: You are required to assume custody of a hazardous/sensitive shipment of cargo. You are to load, secure, conceal and transport the cargo while maintaining security at all times. At no time will any unauthorized person(s) be allowed access to cargo while in your possession. You are to transfer custody to the designated person authorized to receipt of property. Comply with standard statement.

Performance Measures	GO	NO-GO
1. Prepared vehicle to transport hazardous/sensitive cargo.	—	—
2. Prepared hazardous/sensitive cargo for shipment.	—	—
3. Loaded cargo onto vehicle/trailer/semitrailer for movement.	—	—
4. Conducted movement with hazardous/sensitive cargo.	—	—

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.

References

Required

AR 190-11
AR 380-5
DA PAM 385-64
DD FORM 626
DD FORM 836
FM 21-305
FM 55-30
TM 9-2320-366-10-1
TM 9-2320-366-10-2
TM 9-2330-359-14&P

Related

TM 9-2320-303-10

Subject Area 15: HEMTT-LHS/PLS Operations

**Perform Load/Unload Operations in Automatic Mode
551-88M-1501**

Conditions: Given an M1120A2 HEMTT-LHS or either an M1074/M1075 PLS Truck Tractor with before-operation performed, BII, loaded flatrack, and hearing protection, and work gloves.

Standards: You are to perform load/unloading operations with a flatrack or CROP using the truck HEMTT-LHS or PLS Truck Tractor in automatic mode, without injury to personnel or damage to equipment.

Performance Steps

1. Position vehicle for loading operation.

WARNING

CHECK FOR OVERHEAD POWER LINES OR OTHER OBSTRUCTIONS BEFORE ATTEMPTING LHS OPERATION. LHS REACHES A HEIGHT OF 17 FEET TWO INCHES (5.22 M) WITH ISO CONTAINER. SERIOUS INJURY OR DEATH COULD RESULT FROM CONTACT WITH ELECTRICAL POWER LINES.

- a. Check ground conditions for firmness and extreme sideways inclination before picking up or off-loading a flatrack. Any ground instability beneath wheels could cause serious injury or death to personnel.
- b. Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

2. Load flatrack onto tractor (PLS only).

CAUTION

Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

Performance Steps**WARNING**

WHEN LOADING OR UNLOADING FLATRACKS ON UNEVEN GROUND (SIDE SLOPE OR DOWNGRADES UP TO 10 DEGREES), IT MAY BE NECESSARY TO APPLY TRUCK SERVICE BRAKES TO PREVENT TRUCK ROLL AWAY OR SEVERE INJURY OR DEATH.

CAUTION

If LHS overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation operator should determine if payload is evenly distributed on flatrack or if flatrack load exceeds 16.5 tons (14,983 kg). If any of these conditions exist, operator must redistribute or reduce the payload or damage to equipment may occur.

- a. Load must be evenly distributed on the pallet. Uneven load distribution may cause LHS Overload indicator to give false signals and cause LHS to operate incorrectly. Damage to equipment may result.
- b. If LHS overload lamp illuminates and normal operation has stopped, return load to original position and redistribute or reduce payload weight or equipment damage may occur.
- c. Ensure that parking brake is not applied before starting load sequence or damage to equipment may occur.

WARNING

ENSURE THAT FLATRACK RUNNERS CONTACT LHS REAR ROLLERS CORRECTLY. FAILURE TO CONTACT FLATRACK RUNNERS CORRECTLY COULD RESULT IN SERIOUS INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT. OVERLOAD WARNING LIGHT MAY ILLUMINATE WHEN LIFTING FLATRACK FROM UNUSUAL CONDITIONS.

CAUTION

Reduce engine speed to idle before flatrack main rails contact rear rollers or damage to flatrack may result. Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result. Hydraulic selector switch must be in OFF position before driving or hydraulic system could overheat.

Performance Steps

3. Off-load flatrack from tractor (PLS only).

CAUTIONS

Engine idle speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

Ensure parking brake is not applies during unload sequence or damage to equipment may result.

WARNING

WHEN LOADING OR UNLOADING FLATRACKS ON UNEVEN GROUND (SIDE SLOPE OR DOWN GRADES UP TO 10 DEGREES), IT MAY BE NECESSARY TO APPLY TRUCK SERVICE BRAKES TO PREVENT TRUCK ROLL AWAY OR SEVERE INJURY OR DEATH COULD RESULT.

- a. Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 feet, two inches (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- b. Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- c. Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

CAUTION

Check ground conditions where flatrack will be placed can support the flatrack weight or damage to flatrack or LHS may result.

Performance Steps

- d. Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment. Loading and unloading times are controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

CAUTIONS

Once the truck's rear suspension has been relieved of a flatrack load, do not continue in UNLOAD position as possibility of jacking up rear end with hook arm may occur and damage to equipment may result. If flatrack is extremely light or empty, it may be necessary to place transmission range selector to Drive (D) to allow truck to move out from under flatrack.

Never drive with NO TRANS light illuminated.

4. Load flatrack onto truck tractor (HEMTT-LHS only).

CAUTION

If Load Handling System (LHS) had previously been used in Manual mode and not completely stowed in Auto mode, the hook arm cylinders must be completely extended or the LHS must be completely stowed using Auto Mode before the flatrack can be loaded. Failure to comply may result in damage to the truck and flatrack.

NOTES:

1. Continued repetitive cycles, approximately nine at rated 26,000 lbs (11 793 kg) payload, of the LHS could cause overheating and system will fail to pick up the load. Allow the hydraulic system to cool. Wait approximately 1 ½ hours or until the hydraulic reservoir is cool. The hydraulic reservoir is cool when you can hold your hand on the reservoir for more than 10 seconds.
2. Continued repetitive cycles, approximately nine at rated 24,000 lbs (10 886 kg) payload, of the load handling system with container handling unit (CHU) could cause overheating and system will fail to pick up the load. Allow the hydraulic system to cool. Wait approximately 1 1/2 hours or until the hydraulic reservoir is cool. The hydraulic reservoir is cool when you can hold your hand on the reservoir for more than 10 seconds.

NOTES:

1. The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to 1,500 to maximum rpm to reduce loading and unloading times.
2. LHS will only operate when transmission range selector is in Neutral (N).
 - a. Set transmission range selector (1) to Reverse (R) and back truck up to flatrack. Stop at approximately 5 feet (1.3 m) from hook bar (2). Check for overhead obstructions and firmness of the ground.
 - b. Apply service brake pedal (3) and set transmission range selector (1) to Neutral (N).

Performance Steps

- c. Put PTO ENGAGE switch (4) in ON position. Make sure indicator light (5) comes on.

WARNINGS

CHECK FOR OVERHEAD POWER LINES OR OTHER OBSTRUCTIONS BEFORE ATTEMPTING LHS OPERATION. LHS REACHES A HEIGHT OF 17 FEET, 2 INCHES (5.23 M) WITH ISO CONTAINER. SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT FROM CONTACT WITH ELECTRICAL POWER LINES.

CHECK GROUND CONDITIONS FOR FIRMNESS AND EXTREME SIDEWAYS INCLINATION BEFORE PICKING UP OR OFF-LOADING A FLATRACK. ANY GROUND INSTABILITY BENEATH ROAD WHEELS COULD CAUSE SERIOUS INJURY OR DEATH TO PERSONNEL.

PRIOR TO AND DURING ANY LOAD OR UNLOAD CYCLE, ALL PERSONNEL SHOULD STAY CLEAR OF LHS AND FLATRACK OR SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

- d. Turn hydraulic selector switch to AUTO position.
e. Move joystick to UNLOAD position. Lift hook will raise and begin to move rearwards. LHS NO TRANSIT indicator will illuminate to indicate hook arm is up and load lock has been cleared.

NOTE: To fully view lift hook relation to hook bar, it may be necessary to observe position from outside the cab. LHS will only operate when transmission range selector is in Neutral (N).

- f. Continue to unload until lift hook has moved to below level of flatrack hook bar.
g. Release joystick.
h. Set the transmission range selector (1) to Reverse (R) and back truck up to flatrack, aligning truck and flatrack as straight as possible with lift hook to middle of hook bar until lift hook contacts hook bar. Be sure lift hook tip is positioned below bottom of hook bar.

NOTE: LHS will only operate when transmission range selector is in Neutral (N). Set the transmission range selector to Neutral (N).

Performance Steps

CAUTION

Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

- i. Move the joystick to LOAD position to raise lift hook and engage hook bar.

NOTE: LHS will only operate when transmission range selector is in Neutral (N).

- j. If lift hook fails to engage the hook bar:
 - (1) Release the joystick.
 - (2) Set the transmission range selector to Drive (D), release service brake pedal and move truck forward to clear flatrack.
 - (3) Move the joystick to UNLOAD position until lift hook is below level of hook bar.
- k. When correctly engaged, set the transmission range selector to Neutral (N) and release service brake pedal.

WARNING

**WHEN LOADING OR UNLOADING FLATRACKS ON UNEVEN
GROUND (SIDE SLOPE OR DOWNGRADES UP TO 5 DEGREES), IT
MAY BE NECESSARY TO APPLY TRUCK SERVICE BRAKES TO
PREVENT TRUCK ROLLAWAY OR
SEVERE INJURY OR DEATH TO PERSONNEL COULD RESULT.**

Performance Steps**CAUTIONS**

If LHS OVER LOAD indicator illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation operator should determine if payload is evenly distributed on flatrack or if flatrack load exceeds 25,000 lbs (11,340 kg) for LHS or 24,000 lbs (10,886 kg) for LHS with CHU kit. If any of these conditions exist, operator must redistribute or reduce the payload or damage to equipment may occur.

Load must be evenly distributed on the pallet. Uneven load distribution may cause LHS OVER LOAD indicator to give false signals and cause LHS to operate incorrectly. Damage to equipment may result.

If LHS OVER LOAD indicator illuminates and normal operation has stopped, return load to original position and redistribute or reduce payload weight or equipment damage may occur.

Ensure that parking brake is not applied before starting load sequence or damage to equipment may occur.

- I. Move joystick to LOAD position, allowing truck to be pulled under flatrack.

WARNING

ENSURE THAT FLATRACK RUNNERS CONTACT LHS REAR ROLLERS CORRECTLY. FAILURE TO CONTACT FLATRACK RUNNERS CORRECTLY COULD RESULT IN SERIOUS INJURY OR DEATH TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- m. As load is lifted, truck will be pulled under flatrack. Some steering wheel adjustment may have to be made to ensure that flatrack runners will contact rear rollers.

CAUTION

Reduce engine speed to idle before flatrack main rails contact rear rollers or damage to flatrack may result.

Performance Steps

- n. Before flatrack contacts rear rollers, reduce engine speed.
- o. Apply service brake pedal after flatrack main rails contact rear rollers.
 - (1) Release joystick. Set hydraulic selector switch to MAN H.A. position.
 - (2) Move joystick to LOAD position until flatrack is approximately 2 feet (0.61 m) off the ground. Release joystick.
 - (3) Set hydraulic selector switch to AUTO position. Resume normal AUTO operations.

NOTE: Engine speed will require increasing and decreasing in the following steps to facilitate performance.

- p. After flatrack contacts rear rollers, increase engine speed to 1,500 to maximum rpm until flatrack is nearly loaded. Reduce engine speed to idle.
- q. Continue loading until engaged flatrack is fully loaded and LHS NO TRANSIT indicator goes off.
- r. Release joystick.
- s. Pull out PARKING BRAKE control.

NOTE: If flatrack is not engaged in load locks, raise flatrack slightly and lower again. Flatrack should set completely and engage load locks.

- t. Inspect that both load locks have engaged and flatrack is completely down on truck.

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

- u. Put PTO ENGAGE switch in OFF position. Make sure indicator light goes off.
- v. Turn hydraulic selector switch to OFF position.

Performance Steps**WARNINGS**

WHEN LOADED WITH FRS, OR CONTAINER THE CENTER OF GRAVITY IS MOVED UP AND TOWARD REAR OF TRUCK. EXTREME CAUTION MUST BE TAKEN WHEN TURNING AND ASCENDING OR DESCENDING ON A GRADE. FAILURE TO USE EXTREME CAUTION COULD RESULT IN SEVERE INJURY OR DEATH TO PERSONNEL.

MAXIMUM SIDE SLOPE WHEN LOADED WITH A FRS OR CONTAINER IS 30 PERCENT. FAILURE TO COMPLY MAY RESULT IN EQUIPMENT DAMAGE OR SEVERE INJURY OR DEATH TO PERSONNEL.

DO NOT REDUCE TIRE PRESSURE WHEN LOADED WITH FRS OR CONTAINER. HIGHWAY TIRE PRESSURE, 60 PSI (414 KPA) FRONT AND 83 PSI (572 KPA) REAR, IS REQUIRED AT ALL TIMES WHEN LOADED WITH FRS OR CONTAINER. FAILURE TO COMPLY COULD RESULT IN DAMAGE TO EQUIPMENT AND SEVERE INJURY OR DEATH TO PERSONNEL.

5. Unload flatrack from truck tractor (HEMTT-LHS only).

NOTE: Continued repetitive cycles, approximately nine at rated 26,000 lbs payload, of the Load Handling System (LHS) could cause overheating and system will fail to pick up the load.

Allow the hydraulic system to cool. Wait approximately 1 1/2 hours or until the hydraulic reservoir is cool. The hydraulic reservoir is cool when you can hold your hand on the reservoir for more than 10 seconds.

- a. Check area for sufficient operating room at front and rear of truck. Check overhead clearance and ground conditions.
- b. Apply service brake pedal and set transmission range selector to Neutral (N).

CAUTION

Ensure parking brake is not applied during unload sequence or damage to equipment may result.

Performance Steps

- c. Put PTO ENGAGE switch in ON position. Make sure indicator light comes on.
- d. Set hydraulic selector switch to AUTO position.

WARNINGS

WHEN LOADING OR UNLOADING FLATRACKS ON UNEVEN GROUND (SIDE SLOPE OR DOWNGRADES UP TO 5 DEGREES), IT MAY BE NECESSARY TO APPLY TRUCK SERVICE BRAKES TO PREVENT TRUCK ROLLAWAY OR SEVERE INJURY OR DEATH TO PERSONNEL COULD RESULT.

CHECK FOR OVERHEAD POWER LINES OR OTHER OBSTRUCTIONS BEFORE ATTEMPTING LHS OPERATION. LHS REACHES A HEIGHT OF 17 FEET, 2 INCHES (5.23 M) WITH ISO CONTAINER. SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT FROM CONTACT WITH ELECTRICAL POWER LINES.

CHECK GROUND CONDITIONS FOR FIRMNESS AND EXTREME SIDEWAYS INCLINATION BEFORE PICKING UP OR OFF-LOADING A FLATRACK. ANY GROUND INSTABILITY BENEATH ROAD WHEELS COULD CAUSE SERIOUS INJURY OR DEATH TO PERSONNEL.

PRIOR TO AND DURING ANY LOAD OR UNLOAD CYCLE, ALL PERSONNEL SHOULD STAY CLEAR OF LHS AND FLATRACK OR SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

CAUTIONS

Check that ground conditions where flatrack will be placed can support the flatrack weight or damage to flatrack or LHS may result.

Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

NOTE: LHS OVER LOAD indicator may come on when engine is at idle speed.

- e. Move joystick to UNLOAD position. Flatrack will start to move rearwards. LHS NO TRANSIT indicator will illuminate. Maintain engine speed at idle until front of flatrack raises approximately 1 foot (30.5 cm).

Performance Steps

- f. Continue to unload until rear suspension starts to lift and back edge of flatrack touches ground.
- g. Release service brake pedal and allow grounded flatrack to push the truck straight forward from under flatrack and clear.
- h. As front of flatrack approaches within approximately 8 inches (20.32 cm) of ground, decrease engine speed to idle and apply service brake pedal.

CAUTION

Once a trucks rear suspension has been relieved of flatrack load, do not continue in UNLOAD position as possibility of jacking up rear of truck with hook arm may occur and damage to equipment may result.

NOTE: If flatrack is extremely light or empty, it may be necessary to place transmission range selector to Drive (D) to allow truck to move out from under flatrack.

- i. Continue off-loading until flatrack runners are on ground and rear suspension is unloaded.
- j. Release joystick when flatrack runners are resting on ground.
- k. Set transmission range selector to Drive (D) and release service brake pedal.
- l. Set transmission range selector to Neutral (N).
- m. Move joystick to LOAD position momentarily and then to UNLOAD position to let lift hook disengage from hook bar. Repeat step until hook disengages.
- n. Set transmission range selector to Drive (D) and move truck forward approximately 5 feet (1.5 m).
- o. Stop truck and set transmission range selector to Neutral (N).

CAUTION

Never drive with LHS NO TRANSIT indicator illuminated. An illuminated indicator means load locks are not engaged and LHS is not fully stowed.

NOTE: Hook arm does not need to be fully stowed if more transfer operations are going to be made.

- p. Move joystick to LOAD position until LHS is in transit position. LHS NO TRANSIT indicator will go out indicating LHS is in transport position.
- q. Release joystick.
- r. Turn hydraulic selector switch to OFF position.
- s. Put PTO ENGAGE switch in OFF position. Make sure indicator light goes off.

Evaluation Preparation: Setup: Provided a PLS or HEMTT-LHS Truck with flatrack loaded on level ground with room to maneuver the vehicle as needed for the operation. Include all vehicle BII, hearing protection, and provide guidance to the Soldier.

Brief Soldier: You are required to load and then off-load the flatrack (loaded or unloaded) onto/from the PLS or HEMTT-LHS truck in the automatic mode. You are to follow all steps identified in the reference - 10 series TM. All steps are to be performed without injury to personnel or damage to equipment. You are to start the operation with the flatrack on the ground.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Positioned PLS/HEMTT-LHS truck tractor for loading operation.	_____	_____
2. Loaded flatrack onto truck tractor (PLS only).	_____	_____
3. Loaded flatrack onto truck tractor (HEMTT-LHS only).	_____	_____
4. Off-loaded flatrack from truck tractor (PLS only).	_____	_____
5. Off-loaded flatrack from truck tractor (HEMTT-LHS only).	_____	_____

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.

References**Required**

TM 9-2320-304-14&P
TM 9-2320-364-10

Related

Transfer Flatrack Onto/From Palletized Load System (PLS) Trailer Using the Load Handling System (LHS)

551-88M-1503

Conditions: Given a PLS or HEMTT-LHS truck tractor with flatrack or Container Roll-In/Roll-Out Platform (CROP), with before-operation preventive maintenance checks and services (PMCS) performed, hearing protection, work gloves, and an area to maneuver vehicle with trailer and ground guide assistance.

Special Conditions: If the PLS truck tractor is used, performance steps (and measures) 1 and 5 are applicable. If the HEMTT-LHS (M1120A2) is used, performance steps (and measures) 1, 6, and 9 are applicable.

Standards: You are to transfer a flatrack or CROP from the PLS or HEMTT-LHS truck tractor to the PLS trailer (PLST) and then reload the flatrack or CROP from the PLST onto the truck without injury to personnel or damage to equipment.

Performance Steps

1. Position truck and trailer for loading/unloading operation.

NOTE: Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

- Trailer wheels must be chocked during transfer operations or serious injury or death could result.
 - Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.
 - Ensure air lines and cables are properly stowed to prevent damage to equipment (TM 9-2330-385-14).
 - Both of the trailer bumper points must be under the truck bumper stop flange and at least one of the bumper points must contact the bumper stop. The trailer bumper point not contacting the truck bumper stop cannot exceed 0.5 inches (12.7 mm) or flatrack will miss main rail guides and equipment damage may result.
- a. Back up truck so that trailer bumper is under flange and contacts truck bumper stop.
 - b. Apply parking brakes and set transmission range selector to Neutral (N).

WARNING

WHEN OPERATING PLS TRUCK WITH PLS TRAILER, THE HEAVIEST LOADED FLATRACK MUST ALWAYS BE PLACED ON THE TRUCK, OTHERWISE ADVERSE HANDLING AND/OR BRAKING MAY RESULT, CAUSING INJURY OR DEATH TO PERSONNEL.

NOTE: There must be sufficient air pressure in trailer air system to retract flatrack locks or damage to flatrack locks can occur while attempting to load flatrack on trailer. If not, use truck to charge trailer air system using trailer air charging hose. If air system cannot retract flatrack locks, use manual flatrack lock retract procedure (TM 9-2330-385-14).

Performance Steps

2. Load flatrack or CROP onto PLS trailer (automatic mode) (PLS only) from truck.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

NOTE: Do not move truck forward more than three inches (76.2 mm) to prevent flatrack from pulling away from stops.

WARNING

NEVER DRIVE WITH ANY TYPE OF TRANSIT LIGHT ILLUMINATION. AN ILLUMINATED LIGHT MEANS LHS IS NOT FULLY STOWED. THE LOAD COULD BREAK LOOSE CAUSING SERIOUS INJURY OR DEATH TO PERSONNEL.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

NOTE: Hook arm does not need to be fully stowed if more transfer operations are going to be made.

- a. Push in on knob (19) and retract flatrack locks on trailer.
- b. Inspect that both flatrack locks are fully retracted.
- c. Turn hydraulic selector switch to AUTO.

NOTE: When loading or unloading flatracks on uneven ground (side slope or downgrades up to 10 degrees) it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

- Check for overhead power lines or other obstructions before attempting LHS operation. If LHS reaches a height of 17 feet, 2 inches (5.22 m) with ISO container, serious injury or death could result from contact with electrical power lines.
- Trailer wheels must be chocked during transfer operations or serious injury or death could result.
- Load must be evenly distributed on flatrack. Uneven load distribution may cause LHS overload indicator to give false signals and cause LHS to operate incorrectly.
- Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

Performance Steps

- d. Move joystick to UNLOAD until flatrack rollers contact trailer.
- e. Release the joystick.
- f. Inspect and verify trailer guides are lined up between flatrack main rails.
- g. If not aligned:
 - (1) Move joystick to LOAD.
 - (2) When flatrack is fully reloaded, release joystick.
- h. Move the joystick to UNLOAD until flatrack is seated on trailer.
- i. Release the joystick.
- j. Turn the hydraulic selector switch to MAN H.A.
- k. Move the joystick to LOAD until front of flatrack is raised approximately 12 to 18 inches (30 to 46 cm) above trailer deck height.
- l. Turn the hydraulic selector switch to MAN M.F.
- m. Move the joystick to UNLOAD until flatrack rollers contact rear trailer stops and front of flatrack guides are seated on trailer.
- n. Release the joystick.
- o. Inspect that rear rollers on flatrack have contacted rear trailer stops.
- p. Apply the service brake pedal.
- q. Release truck parking brakes.
- r. Move the joystick to LOAD to allow top of lift-hook to clear hook-bar.
- s. Place transmission range selector in Drive (D). Release service brake pedal and move truck forward approximately 3 inches (76.2 mm). Apply service brake pedal.
- t. Move the joystick to UNLOAD to disengage lift-hook from hook-bar.
- u. Set transmission range selector to Neutral and apply truck parking brakes.
- v. Inspect that rear flatrack rollers have contacted trailer stops.
- w. Pull knob and engage flatrack locks.
- x. Inspect that flatrack locks are engaged.
- y. Release the parking brake.
- z. Set the transmission range selector to Drive (D).
- aa. Move the truck forward approximately 5 feet (1.5 m).
- ab. Apply the truck parking brakes and set transmission range selector to Neutral (N).
- ac. Turn the hydraulic selector switch to AUTO.
- ad. Move the joystick to LOAD and retract LHS until LHS NO TRANS light is extinguished.
- ae. Turn hydraulic selector switch to OFF.

3. Unload flatrack or CROP from trailer (automatic mode) (PLS only) to truck.

CAUTION

Load must be evenly distributed on flatrack pallet. Uneven load distribution may cause LHS overload indicator to give false signals and cause LHS to operate incorrectly. Damage to equipment may result.

- a. Back up the truck in line with trailer and stop approximately 5 feet (1.5 m) from trailer.
- b. Apply parking brake and place transmission range selector in Neutral (N).

Performance Steps

NOTE: There must be sufficient air pressure in trailer air system to retract flatrack locks or damage to flatrack lock can occur while attempting to remove flatrack from trailer. If not, use truck to charge trailer air system using trailer air charging hose. If air system cannot retract flatrack locks, use manual flatrack lock retract procedure (TM 9-2330-385-14).

CAUTIONS

Ensure air lines and cables are properly stowed to prevent damage to equipment (TM 9-2330-385-14).

Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.

- c. Push the knob on trailer to retract flatrack locks.
- d. Inspect that both flatrack locks are fully retracted.

WARNINGS

CHECK FOR OVERHEAD POWER LINES OR OTHER OBSTRUCTIONS BEFORE ATTEMPTING LHS OPERATION. IF LHS REACHES A HEIGHT OF 17 FEET, 2 INCHES (5.22 M) WITH ISO CONTAINER, SERIOUS INJURY OR DEATH COULD RESULT FROM CONTACT WITH ELECTRICAL POWER LINES.

CHECK GROUND CONDITIONS FOR FIRMNESS AND EXTREME SIDEWAYS INCLINATION BEFORE PICKING-UP OR OFF-LOADING A FLATRACK. ANY GROUND INSTABILITY BENEATH ROAD WHEELS COULD CAUSE SERIOUS INJURY OR DEATH TO PERSONNEL.

PRIOR TO AND DURING ANY LOAD OR UNLOAD CYCLE, ALL PERSONNEL SHOULD STAY CLEAR OF LHS AND FLATRACK OR SERIOUS INJURY OR DEATH COULD RESULT TO PERSONNEL. TRAILER WHEELS MUST BE CHOCKED DURING TRANSFER OPERATIONS OR SERIOUS INJURY OR DEATH COULD RESULT.

Performance Steps**CAUTIONS**

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

- e. Turn the hydraulic selector switch to AUTO.
 - f. Move the joystick to UNLOAD until lift-hook has moved just below level of flatrack hook-bar.
 - g. Apply service brake pedal and release parking brake.
 - h. Set transmission range selector to Reverse (R), release service brake pedal, and back truck up until lift-hook contacts hook-bar.
 - i. Set the transmission range selector to Neutral (N) and apply truck parking brake.
 - j. Move joystick to LOAD and engage lift-hook into hook-bar.
 - k. Continue loading flatrack onto truck until the LHS NO TRANS light is extinguished indicating LHS is in transportation position.
 - l. Apply parking brake and set the transmission range selector to Neutral (N).
 - m. Inspect that the load locks are engaged and flatrack is completely down on truck.
 - n. Turn hydraulic selector switch to OFF.
4. Load flatrack onto trailer (manual mode) from truck.

WARNING

TRAILER WHEELS MUST BE CHOCKED DURING TRANSFER OPERATIONS.

CAUTION

Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.

- a. Back up the truck so that trailer bumper is under flange and contacts truck bumper stop.
- b. Set the parking brake and place transmission range selector switch in Neutral (N).

NOTE: Ensure trailer air system is pressurized before beginning transfer or flatrack locks may not properly engage. Serious injury or death could result to personnel and damage to equipment may result.

Performance Steps

- c. Push in knob and retract flatrack locks.
- d. Turn the hydraulic selector switch to MAN H.A.

WARNINGS

CHECK FOR OVERHEAD POWER LINES OR OTHER OBSTRUCTIONS BEFORE ATTEMPTING LHS OPERATION. IF LHS REACHES A HEIGHT OF 17 FEET, 2 INCHES (5.22 M) WITH ISO CONTAINER, SERIOUS INJURY OR DEATH COULD RESULT FROM CONTACT WITH ELECTRICAL POWER LINES.

CHECK GROUND CONDITIONS FOR FIRMNESS AND EXTREME SIDEWAYS INCLINATION BEFORE PICKING-UP OR OFF-LOADING A FLATRACK. ANY GROUND INSTABILITY BENEATH ROAD WHEELS COULD CAUSE SERIOUS INJURY OR DEATH TO PERSONNEL

PRIOR TO AND DURING ANY LOAD OR UNLOAD CYCLE, ALL PERSONNEL SHOULD STAY CLEAR OF LHS AND FLATRACK OR SERIOUS INJURY OR DEATH COULD RESULT TO PERSONNEL

ENSURE RAIL TRANSPORT LOCKING PINS ARE DISENGAGED BEFORE UNLOADING FLATRACK. RAIL TRANSPORT LOCKING PINS ARE USED FOR RAIL TRANSPORT ONLY. FAILURE TO COMPLY MAY RESULT IN DAMAGE TO EQUIPMENT.

- e. Move the joystick to UNLOAD until flatrack rollers contact trailer.
- f. Release the joystick.
- g. Inspect and verify that trailer guides are between flatrack main rails.
- h. If not aligned:
 - (1) Move joystick to LOAD.
 - (2) When flatrack is completely reloaded onto truck, release joystick.
 - (3) Repeat steps (g) and (h).

CAUTIONS

To avoid equipment damage, visually check that hook arm cylinders have fully extended.

To avoid equipment damage, ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle.

Performance Steps

NOTE: Overload warning light will come on when hook arm cylinders are fully extended and joystick is activated.

- i. Move the joystick to UNLOAD and hold until hook arm cylinders are fully extended.
- j. Release the joystick.
- k. Turn the hydraulic selector switch to MAN M.F.
- l. Move the joystick to UNLOAD until front of flatrack is completely seated on trailer.
- m. Release the joystick.

CAUTION

Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

- n. Turn the hydraulic selector switch to MAN H.A.
- o. Move joystick to LOAD until front of flatrack is raised approximately 12 to 18 inches (30 to 46 cm) above trailer deck height.
- p. Turn the hydraulic selector switch to MAN M.F.
- q. Move the joystick to UNLOAD until flatrack rollers contact trailer stops and front of flatrack guides are seated on trailer.
- r. Release the joystick.
- s. Inspect that rear flatrack rollers on flatrack have contacted trailer stops.
- t. Apply the service brake pedal.
- u. Release truck parking brakes.
- v. Move the joystick to LOAD to allow top of lift-hook to clear hook-bar.
- w. Release the service brake pedal and place transmission range selector in Drive (D) and move truck forward approximately 3 inches (76.2 mm). Apply service brake pedal.
- x. Move the joystick to UNLOAD to disengage lift-hook from hook-bar.
- y. Set the transmission range selector to Neutral (N) and apply the parking brakes.
- z. Inspect that rear flatrack rollers have contacted trailer stops.
- aa. Pull knob and engage flatrack locks.
- ab. Inspect that flatrack locks are engaged.
- ac. Release the parking brake.
- ad. Set the transmission range selector to Drive (D).
- ae. Move the truck forward approximately 5 feet (1.5 m).
- af. Apply the truck parking brakes and set the transmission range selector to Neutral (N).
- ag. Move the joystick to LOAD and hold in this position until main frame cylinders are fully retracted.
- ah. Turn the hydraulic selector switch to MAN H.A.
- ai. Hold the joystick in LOAD position until the hook arm cylinders are fully retracted.
- aj. Turn the hydraulic selector switch to MAN TRANS.
- ak. Inspect that flatrack is completely seated and load locks are engaged.

Performance Steps**WARNING**

NEVER DRIVE WITH NO TRANS LIGHT ILLUMINATED. AN ILLUMINATED LIGHTS MEANS LHS IS NOT FULLY STOWED. THE LOAD COULD BREAK LOOSE CAUSING SERIOUS INJURY OR DEATH TO PERSONNEL.

5. Unload flatrack from PLS trailer onto truck (manual mode) (PLS only).

CAUTION

There must be sufficient pressure in trailer air system to retract locks or damage to flatrack can occur while attempting to load flatrack or trailer. If not, use truck to charge trailer air system using trailer air charging hose. If air system cannot retract flatrack, use manual flatrack lock retract procedures.

- a. Ensure that air lines and cables are properly stowed to prevent damage to equipment.
- b. Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.
- c. Ensure both flatrack locks are fully retracted or damage.

WARNING

CHECK FOR OVERHEAD POWER LINES OR OTHER OBSTRUCTIONS BEFORE ATTEMPTING LHS OPERATION. IF LHS REACHES A HEIGHT OF CAUTION, THERE MUST BE SUFFICIENT PRESSURE IN TRAILER AIR SYSTEM TO RETRACT LOCKS OR DAMAGE TO FLATRACK CAN OCCUR WHILE ATTEMPTING TO LOAD FLATRACK OR TRAILER. IF NOT, USE TRUCK TO CHARGE TRAILER AIR SYSTEM USING TRAILER AIR CHARGING HOSE. IF AIR SYSTEM CANNOT RETRACT FLATRACK, USE MANUAL FLATRACK LOCK RETRACT PROCEDURES.

- d. Ensure that air lines and cables are properly stowed to prevent damage to equipment.
- e. Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.
- f. Ensure both flatrack locks are fully retracted or damage.

Performance Steps**WARNING**

CHECK FOR OVERHEAD POWER LINES OR OTHER OBSTRUCTIONS BEFORE ATTEMPTING LHS OPERATION. IF LHS REACHES A HEIGHT OF 17 FEET, TWO INCHES (5.22 M) WITH ISO CONTAINER, SERIOUS INJURY OR DEATH COULD RESULT FROM CONTACT WITH ELECTRICAL POWER LINES.

- g. Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.
 - h. Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
6. Load flatrack or CROP onto the truck (HEMTT-LHS only) (automatic mode) from PLST.

WARNINGS

PRIOR TO AND DURING ANY LOAD OR UNLOAD CYCLE, ALL PERSONNEL SHOULD STAY CLEAR OF LHS AND FLATRACK OR SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

TRAILER WHEELS MUST BE CHOCKED DURING TRANSFER OPERATIONS OR SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

CAUTIONS

Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.

Ensure air lines and cables are properly stowed to prevent damage to equipment (TM 9-2330-385-14).

Both trailer bumper points must be under the truck bumper stop flange and at least one of the bumper points must contact the bumper stop. The trailer bumper point not contacting the truck bumper stop cannot exceed 0.5 inches (12.7 mm) or flatrack will miss main rail guides and equipment damage may result.

Performance Steps

- a. Back up truck so that trailer bumper (1) is under flange and contacts truck bumper stop (2).
- b. Pull out PARKING BRAKE control (3) and set transmission range selector (4) to Neutral (N).

WARNINGS

WHEN OPERATING M1120 TRUCK WITH M1076 TRAILER, THE HEAVIEST LOADED FLATRACK MUST ALWAYS BE PLACED ON THE TRUCK, OTHERWISE ADVERSE HANDLING AND/OR BRAKING MAY RESULT, CAUSING INJURY OR DEATH TO PERSONNEL.

ENSURE TRAILER AIR SYSTEM IS PRESSURIZED BEFORE BEGINNING TRANSFER, OR FLATRACK LOCKS MAY NOT PROPERLY ENGAGE/DISENGAGE. SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

CAUTION

There must be sufficient air pressure in trailer air system to retract flatrack locks or damage to flatrack locks can occur while attempting to load flatrack on trailer. If not, use truck to charge trailer air system using trailer air charging hose. If air system cannot retract flatrack locks, use manual flatrack lock retract procedure (TM 9-2330-385-14).

- c. Push knob in and retract flatrack locks on trailer.
- d. Inspect that both flatrack locks are fully retracted.
- e. Put PTO ENGAGE switch in ON position. Make sure indicator light comes on.
- f. Turn hydraulic selector switch to AUTO position.
- g. Move joystick to UNLOAD position until flatrack rollers contact trailer.
- h. Release joystick.
- i. Inspect and verify trailer guides are lined up between flatrack main rails.
- j. If not aligned:
 - (1) Move joystick to LOAD position
 - (2) When flatrack is fully reloaded, release joystick.
 - (3) Repeat steps (f) through (h).
- k. Move joystick to UNLOAD position until hook arm cylinders have fully extended and main frame cylinders have extended 6 to 12 inches (35 to 30 cm).
- l. Release joystick.
- m. Turn hydraulic selector switch to MAN H.A. position.
- n. Move joystick to LOAD until flatrack rear rollers are centered between trailer stacking brackets.
- o. Release joystick.
- p. Turn hydraulic selector switch to MAN M.F. position.

Performance Steps

- q. Release joystick.
 - r. Inspect that rear rollers on flatrack have contacted rear trailer stops.
 - s. Apply service brake pedal.
 - t. Push in truck PARKING BRAKE control.
 - u. Turn hydraulic selector switch to MAN H.A.
 - v. Move joystick to UNLOAD position until flatrack is fully seated on trailer.
 - w. Move joystick to LOAD position to allow top of lift hook to clear hook bar.
 - x. Place transmission range selector (4) in Drive (D). Release service brake pedal and move truck forward approximately 3 inches (76.2 mm). Apply service brake pedal (18).
 - y. Move the joystick to UNLOAD position to disengage lift hook from hook bar.
 - z. Set transmission range selector to Neutral (N) and pull out PARKING BRAKE control.
 - aa. Inspect that rear flatrack rollers have contacted trailer stops.
 - ab. Pull knob and engage flatrack locks.
 - ac. Push in PARKING BRAKE control.
 - ad. Set transmission range selector to Drive (D).
 - ae. Move truck forward approximately 5 feet (1.5 m).
 - af. Pull out PARKING BRAKE control and set transmission range selector to Neutral (N).
 - ag. Turn hydraulic selector switch to AUTO position.
 - ah. Move joystick to LOAD position and retract LHS until LHS NO TRANSIT indicator (21) is extinguished.
 - ai. Turn hydraulic selector switch to OFF position.
 - aj. Put PTO ENGAGE switch in OFF position. Make sure indicator light goes off.
7. Unload flatrack or CROP from the truck (HEMTT-LHS only) (automatic mode).
- a. Back up the truck in line with trailer and stop approximately 5 feet (1.5 m) from trailer.
 - b. Pull out PARKING BRAKE control (1) and place transmission range selector (2) in Neutral (N).
 - c. Push knob (3) on trailer to retract flatrack locks (4).
 - d. Inspect that both flatrack locks (4) are fully retracted.
 - e. Put PTO ENGAGE switch (5) in ON position. Make sure indicator light (6) comes on.
 - f. Turn hydraulic selector switch (7) to AUTO position.
 - g. Move joystick (8) to UNLOAD position until lift hook (9) has moved just below level of flatrack hook bar (10).
 - h. Apply service brake pedal (11) and push in PARKING BRAKE control (1).
 - i. Set transmission range selector (12) to Reverse (R), release service brake pedal (11), and back truck up until lift hook (9) contacts hook bar (10).
 - j. Set transmission range selector (12) to Neutral (N) and apply service brake pedal (11).
 - k. Move joystick (8) to LOAD position and engage lift hook (9) into hook bar (10).
 - l. Pull out PARKING BRAKE control (1) and check that trailer bumper (13) is under flange and within 3.5 inches (89 mm) from truck bumper stop (14).
 - m. Push in PARKING BRAKE control (1) and continue loading flatrack onto truck until the LHS NO TRANSIT indicator (15) goes off indicating LHS is in transport position.
 - n. Pull out PARKING BRAKE control (1) and set the transmission range selector (12) to Neutral (N).
 - o. Inspect that the load locks (16) are engaged and flatrack is completely down on truck.
 - p. Turn hydraulic selector switch (7) to OFF position.
 - q. Put PTO ENGAGE switch (5) in OFF position. Make sure indicator light (6) goes off.

Performance Steps

8. Transfer flatrack or CROP onto trailer (HEMTT-LHS only) (manual mode) from truck.

WARNING

TRAILER WHEELS MUST BE CHOCKED DURING TRANSFER OPERATIONS OR SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

CAUTIONS

Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.

Ensure air lines and cables are properly stowed to prevent damage to equipment (TM 9-2330-385-14).

Both of the trailer bumper points must be under the truck bumper stop flange and at least one of the bumper points must contact the bumper stop. The trailer bumper point not contacting the truck bumper stop cannot exceed 0.5 inches (12.7 mm) or flatrack will miss main rail guides and equipment damage may result.

- a. Back up the truck so that trailer bumper is under flange and contacts truck bumper stop.
- b. Pull out PARKING BRAKE control and place transmission range selector in Neutral (N).

WARNING

ENSURE TRAILER AIR SYSTEM IS PRESSURIZED BEFORE BEGINNING TRANSFER OR FLATRACK LOCKS MAY NOT PROPERLY DISENGAGE. SERIOUS INJURY OR DEATH COULD RESULT TO PERSONNEL AND DAMAGE TO EQUIPMENT MAY RESULT.

- c. Push in knob and retract flatrack locks.
- d. Put PTO ENGAGE switch in ON position. Make sure indicator light comes on.
- e. Turn the hydraulic selector switch to MAN H.A. position.
- f. Move the joystick to UNLOAD position until flatrack rollers contact trailer.
- g. Release the joystick.
- h. Inspect and verify that trailer guides are between flatrack main rails.

Performance Steps

- i. If not aligned:
 - (1) Move joystick to LOAD position.
 - (2) When flatrack is completely reloaded onto truck, release joystick.
 - (3) Repeat steps (d) through (g).
- j. Move the joystick to UNLOAD position and hold until hook arm cylinders are fully extended.
- k. Release the joystick.
- l. Turn the hydraulic selector switch to MAN M.F. position.
- m. Move the joystick to UNLOAD position until front of flatrack is completely seated on trailer.
- n. Release the joystick.
- o. Turn the hydraulic selector switch to MAN H.A. position.
- p. Move joystick to LOAD position until front of flatrack is raised approximately 12 to 18 inches (30 to 46 cm) above trailer deck height.
- q. Turn the hydraulic selector switch to MAN M.F. position.
- r. Move the joystick to UNLOAD position until flatrack rollers contact trailer stops and front of flatrack guides are seated on trailer.
- s. Release the joystick.
- t. Inspect that rear flatrack rollers on flatrack have contacted trailer stops.
- u. Apply the service brake pedal.
- v. Push in truck PARKING BRAKE control.
- w. Move the joystick to UNLOAD position to allow top of lift hook to clear hook bar.
- x. Release the service brake pedal and place transmission range selector in Drive (D) and move truck forward approximately 3 inches (76.2 mm). Apply service brake pedal.
- y. Move the joystick to UNLOAD position to disengage lift hook from hook bar.
- z. Set the transmission range selector to Neutral (N) and pull out PARKING BRAKE control.
- aa. Inspect that rear flatrack rollers have contacted trailer stops.
- ab. Pull knob and engage flatrack locks.
- ac. Inspect that flatrack locks are engaged.
- ad. Push in PARKING BRAKE control.
- ae. Set the transmission range selector to Drive (D).
- af. Move the truck forward approximately 5 feet (1.5 m).
- ag. Pull out PARKING BRAKE control and set the transmission range selector to Neutral (N).

WARNING

NEVER DRIVE WITH LHS NO TRANSIT INDICATOR ILLUMINATED. AN ILLUMINATED INDICATOR MEANS LHS IS NOT FULLY STOWED. THE LOAD COULD BREAK LOOSE CAUSING SERIOUS INJURY OR DEATH TO PERSONNEL.

- ah. Move the joystick to LOAD position and hold in this position until main frame cylinders are fully retracted.
- ai. Turn the hydraulic selector switch to MAN H.A. position.
- aj. Hold the joystick in LOAD position until the hook arm cylinders are fully retracted.
- ak. Turn the hydraulic selector switch to MAN TRANS position.
- al. Put PTO ENGAGE switch in OFF position. Make sure indicator light goes off.
- am. Inspect that flatrack is completely seated and load locks are engaged.

Performance Steps

9. Unload flatrack or CROP from truck (HEMTT-LHS only) (manual mode) to trailer.
 - a. Push the knob on trailer to retract flatrack locks.
 - b. Inspect that both flatrack locks are fully retracted.

WARNINGS

CHECK FOR OVERHEAD POWER LINES OR OTHER OBSTRUCTIONS BEFORE ATTEMPTING LHS OPERATION. IF LHS REACHES A HEIGHT OF 17 FEET, 2 INCHES (5.23 M) WITH ISO CONTAINER, SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT FROM CONTACT WITH ELECTRICAL POWER LINES.

CHECK GROUND CONDITIONS FOR FIRMNESS AND EXTREME SIDEWAYS INCLINATION BEFORE PICKING UP OR OFF-LOADING A FLATRACK. ANY GROUND INSTABILITY BENEATH ROAD WHEELS COULD CAUSE SERIOUS INJURY OR DEATH TO PERSONNEL.

PRIOR TO AND DURING ANY LOAD OR UNLOAD CYCLE, ALL PERSONNEL SHOULD STAY CLEAR OF LHS AND FLATRACK OR SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

- c. Put PTO ENGAGE switch in ON position. Make sure indicator light goes on.
- d. Turn the hydraulic selector switch to MAN H.A. position.
- e. Move the joystick to UNLOAD position and hold until hook arm cylinders are fully extended.
- f. Release the joystick and turn hydraulic selector switch to MAN M.F. position.
- g. Hold joystick in UNLOAD position until lift hook has moved below level at flatrack hook bar.
- h. Set transmission range selector to Reverse (R) and release service brake pedal. Back up truck until lift hook contacts hook bar.
- i. Pull out PARKING BRAKE control.
- j. Check that trailer bumper is under flange of truck bumper stop.
- k. Push in PARKING BRAKE control and move joystick to LOAD position and engage hook bar.
- l. Continue to load in MAN M.F. mode until the main frame cylinders are fully retracted.
- m. Turn the hydraulic selector switch to MAN H.A. position.

WARNING

NEVER DRIVE WITH LHS NO TRANSIT INDICATOR ILLUMINATED. AN ILLUMINATED INDICATOR MEANS LHS IS NOT FULLY STOWED. THE LOAD COULD BREAK LOOSE CAUSING SERIOUS PERSONAL INJURY OR DEATH TO PERSONNEL.

Performance Steps

- n. Hold the joystick in LOAD position until hook arm cylinders are fully retracted.
- o. Turn hydraulic selector switch to MAN TRANS position.
- p. Put PTO ENGAGE switch in OFF position. Make sure indicator light goes off.
- q. Inspect that load locks are engaged and flatrack is fully loaded on truck.

Evaluation Preparation: Setup: Position a PLS or HEMTT-LHS truck tractor with flatrack or CROP and PLS trailer on level, hard ground for operation and assistance from ground guide.

Brief Soldier: You are required to load then unload the PLS flatrack or CROP to and from the PLS trailer both in the automatic and manual modes.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Positioned truck and trailer for loading/unloading operation.	_____	_____
2. Loaded flatrack onto PLS trailer (automatic mode).	_____	_____
3. Unloaded flatrack from trailer (automatic mode).	_____	_____
4. Loaded flatrack onto trailer (manual mode).	_____	_____
5. Unloaded flatrack from PLS trailer (manual mode).	_____	_____
6. Loaded flatrack or CROP onto the truck (HEMTT-LHS only) (automatic mode) from PLST.	_____	_____
7. Unloaded flatrack or CROP from the truck (HEMTT-LHS only) (automatic mode).	_____	_____
8. Loaded flatrack or CROP onto trailer (HEMTT-LHS only) (manual mode) from truck.	_____	_____
9. Unloaded flatrack or CROP from truck (HEMTT-LHS only) (manual mode) to trailer.	_____	_____

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.

References

Required

TM 9-2320-304-14&P
 TM 9-2320-364-10
 TM 9-2330-385-14

Related

TC 21-305-10

Conduct Loading/Unloading Operations in Manual Mode**551-88M-1504**

Conditions: Given a Palletized Load System (PLS) or Heavy Expanded Mobility Tactical Truck-Load Handling System (HEMTT-LHS) truck tractor with flatrack with before-operation performed, hearing protection, work gloves, and assistance from ground guide(s). Ensure vehicle is positioned on solid level ground.

Standards: You are to load and unload a flatrack or Container Roll-in/Roll-out Platform (CROP) using either a PLS or HEMTT-LHS truck tractor in using the manual mode method without injury to personnel or damage to equipment.

Performance Steps

1. Position truck tractor for loading/unloading operations.

CAUTIONS

To avoid equipment damage, ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle.

Manual mode is used mainly in event of a failure of control electrical system. Greater care must be exercised during operation of MANUAL mode for correct cycle of events to occur or damage to equipment may result.

- a. Change truck weight indicator to reflect load weight to be uploaded.
 - b. Adjust driver seat and controls as necessary.
 - c. Ensure vehicle fuel level is sufficient for mission. Refuel as needed.
 - d. Operate lights according to tactical situation.
 - e. Start vehicle. Normal starting procedures (see TM 9-2320-364-10 for details if necessary).
 - f. Check vehicle gauges and warning buzzers for proper indication.
 - g. Operate service brakes and hand brakes as necessary.
 - (1) Ensure brake air pressure gauge reads 100 psi for proper operation of brake system.
 - (2) Operate trailer brakes as necessary.
 - h. Select proper gear range using transmission range selector.
 - i. Position vehicle for uploading operations.
 - (1) If available, always use a ground guide (one or more) to maneuver vehicle into position.
 - (2) Chock vehicle wheels.
 - (3) Set parking brake as required.
 - (4) Prepare Load Handling System (LHS) for uploading.
2. Load flatrack or CROP onto truck tractor (PLS only).
 - a. Set the transmission range selector to Reverse (R) and back truck up to the flatrack. Stop approximately 5 feet (1.5 meters) from hook-bar. Check for overhead obstructions and firmness of ground.
 - b. Apply the service brake pedal and set transmission range selector to Neutral (N).

Performance Steps**CAUTIONS**

To avoid equipment damage, ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle.

Manual mode is used mainly in event of a failure of control electrical system. Greater care must be exercised during operation of MANUAL mode for correct cycle of events to occur or damage to equipment may result.

- c. Turn the hydraulic selector switch to MAN H.A.

WARNINGS

CHECK FOR OVERHEAD POWER LINES OR OTHER OBSTRUCTIONS BEFORE ATTEMPTING LHS OPERATION. IF LHS REACHES A HEIGHT OF 17 FEET, 2 INCHES (5.22 METERS) WITH ISO CONTAINER, SERIOUS INJURY OR DEATH COULD RESULT FROM CONTACT WITH ELECTRICAL POWER LINES. CHECK GROUND CONDITIONS FOR FIRMNESS AND EXTREME SIDEWAYS INCLINATION BEFORE PICKING-UP OR OFF-LOADING A FLATRACK. ANY GROUND INSTABILITY BENEATH ROAD WHEELS COULD CAUSE SERIOUS INJURY OR DEATH TO PERSONNEL.

PRIOR TO AND DURING ANY LOAD OR UNLOAD CYCLE, ALL PERSONNEL SHOULD STAY CLEAR OF LHS AND FLATRACK OR SERIOUS INJURY OR DEATH COULD RESULT TO PERSONNEL.

- d. Move joystick to UNLOAD and hold until hook arm cylinders are fully extended.

Performance Steps

- e. Release joystick.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result. To avoid equipment damage, ensure that mainframe cylinders do not complete full extension while operating at engine speeds above idle. Manual mode is used mainly in event of a failure of control electrical system. Greater care must be exercised during operation of MANUAL mode for correct cycle of events to occur or damage to equipment may result. If LHS had previously been used in Manual Mode and not completely stowed in Auto Mode, the hook arm cylinders must be completely extended or the LHS must be completely stowed using Auto Mode before the flatrack can be loaded. Failure to comply may result in damage to the truck and flatrack.

- f. Turn hydraulic selector switch to MAN M.F.
- g. Move joystick to UNLOAD and hold until lift-hook has moved below level of flatrack hook-bar.
- h. Apply service brake pedal and set transmission range selector to Reverse (R) and back truck up to flatrack, aligning truck and flatrack as straight as possible with lift-hook to the middle of hook-bar.
- i. Stop truck when lift-hook touches flatrack.
- j. Leave truck in reverse gear with engine at idle.

NOTE: Ensure parking brake is not applied during unload sequence or damage to equipment may result. Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

- k. Move joystick to LOAD to engage lift-hook and hook-bar.
- l. If lift-hook fails to engage hook-bar:
 - (1) Release joystick.
 - (2) Set transmission range selector to Drive (D), release service brake pedal and move truck forward just clear of flatrack.
 - (3) Move joystick to UNLOAD until lift-hook is below level of hook-bar.
 - (4) Repeat steps j and k.

NOTE: When loading or unloading flatracks on uneven ground (side slope or downgrades up to 10 degrees) it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result. Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

Performance Steps

- m. Set transmission range selector to Neutral (N) and release service brake pedal.

NOTE: If LHS overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation, operator should determine if payload is evenly distributed on flatrack or if flatrack load exceeds 16.5 tons (14,969 kg). If any of these conditions exist, operator must redistribute or reduce payload or damage to equipment may result. Ensure that parking brake is not applied before starting load sequence or damage to equipment may result.

- n. Move joystick to LOAD, allowing truck to be pulled under flatrack.

CAUTION

Ensure that flatrack runners contact LHS rear rollers correctly. Failure to contact flatrack runners correctly could result in serious injury or death to personnel and damage to equipment.

- o. Before flatrack contacts rear rollers, reduce engine speed and apply service brake pedal.
- p. Release the joystick. Set hydraulic selector switch to MAN H.A.
- q. Move the joystick to LOAD until flatrack is approximately 2 feet (0.61 m) off the ground. Release joystick.
- r. Set the hydraulic selector switch to MAN M.F. operations.
- s. After flatrack contacts rear rollers, increase engine speed to approximately 1,500 rpm until main frame cylinders have nearly completed full retraction.
- t. Reduce engine speed to idle and continue loading until main frame cylinders are fully retracted.
- u. Release the joystick.
- v. Turn the hydraulic selector switch to MAN H.A.
- w. Move the joystick to LOAD position and increase engine speed until flatrack is nearly loaded, then reduce speed to idle.
- x. Continue to load until LHS and flatrack is in transit position. LHS NO TRANS light will extinguish.
- y. Release joystick.
- z. Apply parking brakes.
- aa. Inspect that load locks have engaged and flatrack is fully down on truck. Turn the hydraulic selector switch to MAN TRANS.

Performance Steps**WARNINGS**

CHECK FOR OVERHEAD POWER LINES OR OTHER OBSTRUCTIONS BEFORE ATTEMPTING LHS OPERATION. IF LHS REACHES A HEIGHT OF 17 FEET, 2 INCHES (5.22 METERS) WITH ISO CONTAINER, SERIOUS INJURY OR DEATH COULD RESULT FROM CONTACT WITH ELECTRICAL POWER LINES. CHECK GROUND CONDITIONS FOR FIRMNESS AND EXTREME SIDEWAYS INCLINATION BEFORE PICKING-UP OR OFF-LOADING A FLATRACK. ANY GROUND INSTABILITY BENEATH ROAD WHEELS COULD CAUSE SERIOUS INJURY OR DEATH TO PERSONNEL.

PRIOR TO AND DURING ANY LOAD OR UNLOAD CYCLE, ALL PERSONNEL SHOULD STAY CLEAR OF LHS AND FLATRACK OR SERIOUS INJURY OR DEATH COULD RESULT TO PERSONNEL.

3. Offload flatrack or CROP from truck tractor (PLS only).
 - a. Check for sufficient operating room at front and rear of truck. Check overhead clearance and ground conditions.
 - b. Apply the service brake pedal and set transmission range selector to Neutral (N).
 - c. Turn the hydraulic selector switch to MAN H.A.
 - d. Move the joystick to UNLOAD until hook arm cylinders have fully extended. Maintain engine speed at idle for approximately the first 18 inches (46 cm) and last 6 inches (15 cm) of movement.
 - e. Release the joystick.
 - f. Turn the hydraulic selector switch to MAN M.F.
 - g. Move the joystick to UNLOAD.
 - h. When back edge of flatrack touches ground, release service brake pedal allowing truck to be pushed straight from under flatrack.
 - i. Continue off-loading until front of flatrack is within 8 inches (203.2 cm) of ground, decrease engine speed to idle and apply service brake pedal.
 - j. Continue off-loading until flatrack is on ground and rear suspension is unloaded.
 - k. Release joystick.
 - l. Set transmission range selector to Drive (D) and release service brake pedal.
 - m. Move the joystick to LOAD momentarily and then to UNLOAD to let lift-hook disengage from hook-bar. Repeat step until lift-hook disengages.
 - n. Move the truck forward approximately 5 feet (1.5 meters).
 - o. Stop the truck and set the transmission range selector to Neutral (N).
 - p. Move the joystick to LOAD and hold in this position until mainframe cylinders are fully retracted.
 - q. Turn the hydraulic selector switch to MAN H.A.
 - r. Hold the joystick in LOAD position until the hook arm cylinders are fully retracted.
 - s. Release joystick.

Performance Steps

4. Load a flatrack or CROP onto truck tractor (HEMTT-LHS only).
 - a. Set transmission range selector to Reverse (R) and back truck up to the flatrack. Stop approximately 5 feet (1.5 m) from hook bar. Check for overhead obstructions and firmness of ground.
 - b. Apply service brake pedal and set transmission range selector to Neutral (N).

CAUTION

To avoid equipment damage, ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle. Manual mode is used mainly in event of a failure of automatic control electrical system and when loading FRS. Greater care must be exercised during operation of MANUAL mode for correct cycle of events to occur or damage to equipment may result.

- c. Put PTO ENGAGE switch in ON position. Make sure indicator light comes on.
- d. Turn hydraulic selector switch to MAN H.A. position.

WARNINGS

CHECK FOR OVERHEAD POWER LINES OR OTHER OBSTRUCTIONS BEFORE ATTEMPTING LHS OPERATION. IF LHS REACHES A HEIGHT OF 17 FEET, 2 INCHES (5.23 M) WITH ISO CONTAINER, SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT FROM CONTACT WITH ELECTRICAL POWER LINES.

CHECK GROUND CONDITIONS FOR FIRMNESS AND EXTREME SIDEWAYS INCLINATION BEFORE PICKING UP OR OFF-LOADING A FLATRACK. ANY GROUND INSTABILITY BENEATH ROAD WHEELS COULD CAUSE SERIOUS INJURY OR DEATH TO PERSONNEL.

PRIOR TO AND DURING ANY LOAD OR UNLOAD CYCLE, ALL PERSONNEL SHOULD STAY CLEAR OF LHS AND FLATRACK OR SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

NOTES:

1. LHS OVER LOAD indicator will come on when hook arm cylinders are fully extended and joystick is activated.
 2. Loading and unloading times are controlled by engine speed. Engine speed can be increased to 1,500 to maximum rpm to reduce loading and unloading times.
- e. Move joystick to UNLOAD position and hold until hook arm cylinders are fully extended.
 - f. Release joystick.

Performance Steps**CAUTIONS**

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

To avoid equipment damage, ensure that main frame cylinders do not complete full extension while operating at engine speeds above idle.

Manual mode is used mainly in event of a failure of automatic control electrical system. Greater care must be exercised during operation of MANUAL mode for correct cycle of events to occur or damage to equipment may result.

If LHS had previously been used in manual mode and not completely stowed in AUTO mode, the hook arm cylinders must be completely extended or the LHS must be completely stowed using AUTO mode before the flatrack can be loaded. Failure to comply may result in damage to the truck and flatrack.

- g. Turn hydraulic selector switch to MAN M.F. position.
- h. Move joystick to UNLOAD position and hold until lift hook (9) has moved below level of flatrack hook bar.
- i. Apply service brake pedal and set transmission range selector to Reverse (R). Back up truck to flatrack/FRS, aligning truck and flatrack/FRS as straight as possible with lift hook to middle of hook bar.
- j. Stop truck when lift hook touches flatrack/FRS.
- k. Set transmission range selector to Neutral (N).
- l. Move joystick to LOAD position to engage lift hook and hook bar.
- m. If lift hook fails to engage hook bar:
 - (1) Release joystick.
 - (2) Set transmission range selector to Drive (D), release service brake pedal (3), and move truck forward just clear of flatrack.
 - (3) Move joystick to UNLOAD position until lift hook is below level of hook bar.

Performance Steps

WARNINGS

WHEN LOADING OR UNLOADING FLATRACKS ON UNEVEN GROUND (SIDE SLOPE OR DOWNGRADES UP TO 5 DEGREES), IT MAY BE NECESSARY TO APPLY TRUCK SERVICE BRAKES TO PREVENT TRUCK ROLLAWAY OR SEVERE INJURY OR DEATH TO PERSONNEL COULD RESULT.

PRIOR TO AND DURING ANY LOAD OR UNLOAD CYCLE, ALL PERSONNEL SHOULD STAY CLEAR OF LHS AND FLATRACK OR SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

CAUTIONS

If LHS OVER LOAD indicator illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation, operator should determine if payload is evenly distributed on flatrack or if flatrack load exceeds 25,000 lbs (11 340 kg) for LHS or 24,000 lbs (10 886 kg) for LHS with CHU kit. If any of these conditions exist, operator must redistribute or reduce payload or damage to equipment may result.

Ensure that parking brake is not applied before starting load sequence or damage to equipment may result.

When loading or unloading FRS, engine speed must be at 1,500 rpm.

- n. Move joystick to LOAD position, allowing truck to be pulled under flatrack.
- o. Before flatrack contacts rear rollers, reduce engine speed and apply service brake pedal.
- p. Release joystick. Set hydraulic selector switch to MAN H.A. position.
- q. Move joystick to LOAD position until flatrack/FRS is approximately 2 feet (0.61 m) off the ground.
- r. Release joystick.
- s. Set hydraulic selector switch to MAN M.F. position.
- t. After flatrack/FRS contacts rear rollers, increase engine speed from 1,500 to maximum rpm until main frame cylinders have nearly completed full retraction.
- u. Reduce engine speed to idle and continue loading until main frame cylinders are fully retracted.
- v. Release joystick.
- w. Turn hydraulic selector switch to MAN H.A. position.
- x. Move joystick to LOAD position and increase engine speed until flatrack is nearly loaded, then reduce speed to idle.

Performance Steps

- y. Continue to load until LHS and flatrack/FRS are in transit position. LHS NO TRANSIT indicator will go off.
 - z. Release joystick.
 - aa. Pull out PARKING BRAKE control.
 - ab. Make sure that load locks have engaged and flatrack/FRS is fully down on truck.
 - ac. Turn hydraulic selector switch to MAN TRANS position.
 - ad. Put PTO ENGAGE switch in OFF position. Make sure indicator light goes off.
5. Unload a flatrack or CROP from truck tractor (HEMTT-LHS only).
- a. Check for sufficient operating room at front and rear of truck. Check overhead clearance and ground conditions.
 - b. Apply service brake pedal and set transmission range selector to Neutral (N).

CAUTION

Manual mode is used mainly in event of a failure of automatic control electrical system and when unloading an FRS. Greater care must be exercised during operation of manual mode for correct cycle of events to occur or damage to equipment may result.

- c. Put PTO ENGAGE switch in ON position. Make sure indicator light comes on.
- d. Turn hydraulic selector switch to MAN H.A. position.

WARNINGS

CHECK FOR OVERHEAD POWER LINES OR OTHER OBSTRUCTIONS BEFORE ATTEMPTING LHS OPERATION. IF LHS REACHES A HEIGHT OF 17 FEET, 2 INCHES (5.23 M) WITH ISO CONTAINER, SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT FROM CONTACT WITH ELECTRICAL POWER LINES.

CHECK GROUND CONDITIONS FOR FIRMNESS AND EXTREME SIDEWAYS INCLINATION BEFORE PICKING UP OR OFF-LOADING A FLATRACK. ANY GROUND INSTABILITY BENEATH ROAD WHEELS COULD CAUSE SERIOUS INJURY OR DEATH TO PERSONNEL.

PRIOR TO AND DURING ANY LOAD OR UNLOAD CYCLE, ALL PERSONNEL SHOULD STAY CLEAR OF LHS AND FLATRACK OR SERIOUS INJURY OR DEATH TO PERSONNEL COULD RESULT.

Performance Steps

CAUTIONS

Reduce speed to idle for approximately the first 18 inches (46 cm) of travel and again when flatrack is 2 feet (61 cm) above ground to prevent damage to cylinder.

To avoid equipment damage, ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle.

Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

NOTES:

1. LHS OVER LOAD indicator may come on when engine is at idle speed.
2. When unloading an FRS, engine speed must be at 1,500 rpm.
- e. Move joystick to UNLOAD position until hook arm cylinders have fully extended. Maintain engine speed at idle for approximately the first 18 inches (46 cm) and last 6 inches (15 cm) of movement.
- f. Release joystick.
- g. Turn hydraulic selector switch to MAN M.F. position.
- h. Move joystick to UNLOAD position.

WARNING

WHEN LOADING OR UNLOADING FLATRACKS/FRS ON UNEVEN GROUND (SIDE SLOPE OR DOWN GRADES UP TO 5 DEGREES), IT MAY BE NECESSARY TO APPLY TRUCK SERVICE BRAKES TO PREVENT TRUCK ROLLAWAY OR SEVERE INJURY OR DEATH TO PERSONNEL COULD RESULT.

- i. When back edge of flatrack/FRS touches ground, release service brake pedal (1), allowing truck to be pushed straight from under flatrack.
- j. Continue off-loading until front of flatrack/FRS is within 8 inches (20.32 cm) of ground, decrease engine speed to idle and apply service brake pedal (1).
- k. Continue off-loading until flatrack/FRS is on ground and rear suspension is unloaded.
- l. Release joystick.
- m. Move joystick to LOAD position momentarily and then to UNLOAD position to let lift hook disengage from hook bar. Repeat step until lift hook disengages.
- n. Move truck forward approximately 5 feet (1.5 m).
- o. Stop truck and set transmission range selector to Neutral (N).

Performance Steps

- p. Move joystick to LOAD position and hold in this position until main frame cylinders are fully retracted.
- q. Turn hydraulic selector switch to MAN H.A. position.
- r. Hold joystick in LOAD position until the hook arm cylinders are fully retracted.
- s. Release joystick.

WARNING

NEVER DRIVE WITH LHS NO TRANSIT INDICATOR ILLUMINATED. AN ILLUMINATED INDICATOR MEANS LHS IS NOT FULLY STOWED. THE LOAD COULD BREAK LOOSE CAUSING SERIOUS INJURY OR DEATH TO PERSONNEL.

- t. Turn hydraulic selector switch to MAN TRANS.
- u. Put PTO ENGAGE switch in OFF position. Make sure indicator light goes off.

Evaluation Preparation: Setup: Provide the Soldier with a PLS or HEMTT-LHS truck tractor with flatrack or CROP with before-operation PMCS completed, BII, hearing protection, work gloves, and assistance from ground guide(s). Ensure vehicle is positioned on solid level ground.

Brief Soldier: The Soldier is required to operate the PLS or HEMTT-LHS truck tractor to load and then unload a flatrack or CROP onto/from the PLS truck using the manual mode. All required steps are to be performed without injury to personnel or damage to equipment.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Positioned PLS truck for loading/unloading operations.	_____	_____
2. Loaded flatrack onto PLS truck.	_____	_____
3. Offloaded flatrack from PLS truck.	_____	_____
4. Shutdown engine.	_____	_____

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.

References

Required

TM 9-2320-304-14&P
TM 9-2320-364-10

Related

TC 21-305-10

Conduct Loading/Unloading Operations Using Container Handling Unit (CHU)

551-88M-1505

Conditions: Provided a Palletized Load System (PLS) (M1075 model only) or Heavy Expanded Mobility Tactical Truck-Load Handling System (HEMTT-LHS) truck tractor equipped with the CHU (also known as Front Lift Adapter) and configured in the container mode, a container to be loaded (any container that is 82, 72, 64, 51, or 48 inches tall), hearing protection, and ground guide (spotter) as needed. CHU is to be on the ground and configured for appropriate container.

Standards: With the aid of a ground guide (spotter), you are to load and unload an International Standard Organization (ISO) container using the PLS or HEMTT-LHS truck tractor using the CHU (Front Lift Adapter) without injury to personnel or damage to equipment.

Performance Steps

1. Prepare PLS truck tractor (M1074 only) and HEMTT-LHS truck tractor for container mode.

NOTE: This task is abbreviated and all performance steps and performance measures required are referred to in the applicable reference publication. Due to the considerable length of this operation, all actions to be performed and evaluated are to be taken directly from the reference publication cited in each step. Operator must make the necessary adjustments to equipment to accommodate the differing heights of containers used. All WARNING and CAUTION statements listed in the TM MUST be adhered to.

- a. Refer to TM 9-2320-364-10, paragraph 2-32 for performance steps for the M1074 PLS truck only and TM 9-2320-304-14&P, paragraph 2-10.1 for the M1120A2 HEMTT-LHS truck.
- b. Adhere to all WARNING and CAUTION statements listed in the reference publication while performing this operation.
2. Load container 48 inches tall or taller onto a PLS truck tractor using the CHU.
 - a. For container 48 inches tall or taller, refer to and comply with TM 9-2320-364-10, paragraph 2-36, subparagraph a, pages 2-532 to 2-555.
 - b. Adhere to all WARNINGS and CAUTIONS in the TM applicable to this procedure.
3. Unload a container 48 inches tall or taller from a PLS truck tractor using the CHU.
 - a. For container 48 inches tall or taller, refer to and comply with TM 9-2320-364-10, paragraph 2-36, subparagraph b, pages 2-556 to 2-569.
 - b. Adhere to all WARNINGS and CAUTIONS in the TM applicable to this procedure.
4. Load container 48 inches tall or taller onto HEMTT-LHS truck tractor using the CHU.
 - a. For container 48 inches tall or taller, refer to and comply with TM 9-2320-304-14&P, paragraph 2-10.5, subparagraph a, pages 2-82.96 to 2-82.112.
 - b. Adhere to all WARNINGS and CAUTIONS in the TM applicable to this procedure.
5. Unload container 48 inches tall or taller from the HEMTT-LHS truck tractor using the CHU.
 - a. For container 48 inches tall or taller, refer to and comply with TM 9-2320-304-14&P, paragraph 2-10.5, subparagraph b, pages 2-82.113 to 2-82.123.
 - b. Adhere to all WARNINGS and CAUTIONS in the TM applicable to this procedure.

Evaluation Preparation: Setup: Provide for the Soldier a PLS (M1075 model only) or HEMTT-LHS truck tractor (in container mode), CHU, ISO container, hearing protection, work gloves, and assistance from ground guides. Ensure vehicle and container are positioned on solid level ground.

Brief Soldier: You are required to perform all operational steps involved in the loading and unloading of an ISO container on your vehicle. Using a spotter (ground guide) you are required to properly install the container handling unit (Front Lift Adapter only) and prepare and position the vehicle for loading and unloading operations. Guides and sliders are already installed on the rear of the truck and ready for operation. You are required to perform this operation without injuring anyone or causing damage to any of the equipment. A spotter (guide) will assist you as needed but will not interfere with your operation or provide any technical assistance. Any unsafe act is cause for NO-GO.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Prepared PLS truck tractor (M1075 only) or HEMTT-LHS truck tractor for container mode.	_____	_____
a. Referred to and complied with TM 9-2320-364-10, paragraph 2-32 and paragraphs 2-381 through 2-404.		
b. Referred to and complied with TM 9-2320-304-14&P, paragraph 2-10.1, subparagraph a.		
c. Adhered to all WARNINGS and CAUTIONS in the TM applicable to this step.		
2. Loaded container onto a PLS truck using the CHU.	_____	_____
a. For container 48 inches tall, refer to and comply with TM 9-2320-364-10, paragraph 2-36, subparagraph a, pages 2-532 to 2-555.		
b. Adhere to all WARNINGS and CAUTIONS in the TM applicable to this procedure.		
3. Unloaded a container from a PLS truck using the CHU.	_____	_____
a. For container 48 inches tall, refer to and comply with TM 9-2320-364-10, paragraph 2-36, subparagraph b, pages 2-556 to 2-569.		
b. Adhere to all WARNINGS and CAUTIONS in the TM applicable to this procedure.		
4. Loaded container 48 inches tall or taller onto HEMTT-LHS truck tractor using the CHU.	_____	_____
a. Referred to and complied with TM 9-2320-304-14&P, paragraph 2-10.5, subparagraph a.		
b. Adhere to all WARNINGS and CAUTIONS in the TM applicable to this procedure.		
5. Unloaded container 48 inches tall or taller from the HEMTT-LHS truck tractor using the CHU.	_____	_____
a. Referred to and complied with TM 9-2320-304-14&P, paragraph 2-10.5, subparagraph b.		
b. Adhere to all WARNINGS and CAUTIONS in the TM applicable to this procedure.		

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.

References

Required

TM 9-2320-304-14&P
TM 9-2320-364-10

Related

TC 21-305-10

Conduct Container Roll-In/Roll-Out Platform (CROP) Load/Unload Operations
551-88M-1507

Conditions: Given a mission-ready Palletized Load System/Heavy Expanded Mobility Tactical Truck-Load Handling System (PLS/HEMTT-LHS) truck CROP firm area to perform operation, hearing protection and ground guide (spotter).

Special Conditions: Operator should have a valid driver's license or be accompanied by a licensed driver or perform operation in a controlled driving range under direct supervision of a licensed driver/instructor. During insertion procedure, at least one ground guide (spotter) is required.

Standards: You are to operate the PLS/HEMTT-LHS Truck tractor in loading/unloading operations involving the CROP. All functions of the operations are to be performed without injury to personnel or damage to vehicle or equipment.

Performance Steps

1. Load CROP(s) into an ISO container using the PLS truck tractor.
 - a. Adhere to all WARNING and CAUTION statements in the TM regarding this procedure. Apply warning and caution statements above to all steps in this task.
 - b. Refer to TM 9-3990-260-14&P, paragraph 2-16, subparagraph a, steps (1) through (23), pages 2-31 to 2-38 for applicable procedures in loading ISO container. Refer to subsequent paragraphs if directed, as needed in the TM.

WARNINGS

CROP WEIGHS 3,800 LBS (1,724 KG). SIX CROPS WEIGH 22,800 LBS (10,342 KG). MAKE SURE ALL PERSONNEL STAND CLEAR OF CROP WHEN CROP IS BEING MOVED. FAILURE TO COMPLY MAY RESULT IN SEVERE INJURY OR DEATH TO PERSONNEL.

ALWAYS LIFT STACK OF CROPS BY CONNECTING LIFTING DEVICE TO BOTTOM CROP. FAILURE TO COMPLY MAY RESULT IN DAMAGE TO EQUIPMENT OR SEVERE INJURY OR DEATH TO PERSONNEL.

Performance Steps**CAUTIONS**

Attempting to load/unload stack of CROPs or loaded CROP in ISO container requires extreme care to prevent damage to equipment. Clearance between ceiling of ISO container and top of load and inside walls of ISO container and each side of CROP is designed to be close, requiring at least one ground guide to assist during difficult insertion/removal procedure.

Make sure web straps securing stack of CROPs are removed prior to insertion into ISO container. Failure to comply may result in damage to web straps during insertion procedure.

NOTE: Stack of six CROPs is maximum that can be loaded into ISO container.

2. Unload CROP(s) from an ISO container using the PLS truck tractor.
 - a. Adhere to all WARNING and CAUTION statements in the TM regarding this procedure.
 - b. Refer to TM 9-3990-260-14&P, paragraph 2-16, subparagraph b, steps (1) through (11), pages 2-39 to 2-41 for applicable procedures in unloading ISO container. Refer to subsequent paragraphs if directed, as needed in the TM.
3. Load CROP(s) into an ISO container using the HEMTT-LHS truck tractor.
 - a. Adhere to all WARNING and CAUTION statements in the TM regarding this procedure.
 - b. Refer and comply with procedures in TM 9-2320-304-14&P, paragraph 2-10.9, subparagraph a, starting on page 2-82.136.
4. Unload CROP(s) from an ISO container using the HEMTT-LHS truck tractor.
 - a. Adhere to all WARNING and CAUTION statements in the TM regarding this procedure.
 - b. Refer to and comply with procedures in TM 9-2320-304-14&P, paragraph 2-10.9, subparagraph b, starting on page 2-82.141.

Evaluation Preparation: Setup: Provide the Soldier with a PLS or HEMTT-LHS truck, CROP, ISO container, ground guide, BII from vehicle, and area for operation.

Brief Soldier: You are required to conduct loading and unloading operations involving a single or stack (maximum six) CROP into and out of an ISO container. You are to use the PLS or HEMTT-LHS vehicle to perform this operation. You are to observe and follow the hand and arm signals of your ground guide (spotter) to prevent an unsafe situation from developing. You are to insert the CROP(s) into the ISO container, secure the load, and close the doors. Afterwards, you are to open the container doors, remove the CROP(s) from the ISO container. You are to complete this operation without injury to personnel or damage to any equipment.

Performance Measures**GO****NO-GO**

- | | | |
|---|-------|-------|
| 1. Loaded ISO container with CROP(s) using the PLS truck tractor. | _____ | _____ |
| 2. Unloaded ISO container with CROP(s) using the PLS truck tractor. | _____ | _____ |
| 3. Loaded ISO container with CROP(s) using the HEMTT-LHS truck tractor. | _____ | _____ |
| 4. Unloaded ISO container of CROP(s) using the HEMTT-LHS truck tractor. | _____ | _____ |

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.

References**Required**

TM 9-2320-279-10-1
TM 9-2320-304-14&P
TM 9-3990-260-14&P

Related

FM 21-305
TC 21-305-10

Skill Level 2

Subject Area 4: Motor Vehicle Operations

Perform Dispatcher Duties**551-88M-2371**

Conditions: Under the supervision of the truckmaster, given a request for a vehicle or equipment to be dispatched, DA Form 2401 (Organization Control Record for Equipment) or DA Form 5982-E (Dispatch Control Log), DD Form 1970 (Motor Equipment Utilization Record) or DA Form 5987-E (Motor Equipment Dispatch), pencil, Unit Level Logistics System (ULLS) workstation (if unit is so equipped), a list of drivers and their qualifications, vehicle status board, and a copy of unit standing operating procedure (SOP).

Standards: You must accurately and legibly make dispatcher entries on DA Form 2401, DD Form 1970, or DA Form 5982-E (ULLS), confirm driver qualifications and endorsements, and select driver(s) and vehicle(s) for mission based on guidance from platoon sergeants. Upon completion of mission, you must log all mileage, load, and time data for vehicles, drivers, and load moved as required locally. You must notify maintenance of any discrepancy of vehicle status and report discrepancies on vehicle trip reports to truckmaster.

Performance Steps

1. Process transportation requests.
 - a. Acquire vehicle(s) and driver(s) availability information from platoon sergeant(s) to be used for mission. Complete initial dispatcher entries on forms.
 - b. Compile all appropriate forms in the equipment record folder. The following forms are required at a minimum.
 - (1) DD Form 1970, Complete dispatcher entries.
 - (2) DD Form 518.
 - (3) SF Form 91.
 - (4) DA Form 5987-E (ULLS), Complete dispatcher entries.
 - (5) DA Form 5823 (Equipment Identification Card). This form goes on outside of record folder. Dispatcher must verify vehicle status information before dispatch of vehicle.
2. Manually dispatch unit vehicle(s) for regular dispatch (units without ULLS).
 - a. For dispatch out:
 - (1) Verify driver's license and qualifications of driver with vehicle and load selected for dispatch.
 - (2) Make dispatcher entries on DD Form 1970.
 - (a) Date form is started.
 - (b) Serial number.
 - (c) Bumper number.
 - (d) Organization.
 - (e) Miles or Kilometers.
 - (f) Hours (as applicable).
 - (g) Dispatcher signature.
 - (h) Print "report to" name.
 - (i) Noun nomenclature of vehicle.
 - (j) Print name of operator(s).

Performance Steps

- (3) Ensure operator makes the following entries on DD Form 1970.
 - (a) Signature.
 - (b) Time.
 - (c) Miles and hours.
 - (4) Log vehicle out on DA Form 2401.
 - b. Upon return of vehicle from dispatch (dispatch in), the dispatcher verifies the following entries on DD Form 1970.
 - (1) Miles and hours.
 - (2) Time in and total time.
 - (3) "Release by" signature.
 - (4) Fuel and oil, if required locally.
 - c. Collect dispatch equipment record folder from operator.
 - d. Log vehicle in from dispatch on DA Form 2401.
 - e. Annotate type cargo and tons moved, as applicable.
 - f. Report change in vehicle status to maintenance personnel as applicable.
 - g. Report discrepancies in trip records to truckmaster.
 - h. File trip records in accordance with local directives.
3. Dispatch unit vehicle(s) for regular dispatch (units supported by ULLS).
 - a. For dispatch out (departing on dispatch).
 - (1) Verify that operator is registered through ULLS as a licensed, qualified operator. If not registered in ULLS, check operator OF Form 346 (U.S. Government Motor Vehicle Operator's Identification Card).
 - (2) Issue dispatch equipment record folder to operator. Folder should contain:
 - (a) DA Form 5988-E (Equipment Inspection Maintenance Worksheet) (automated).
 - (b) DA Form 5987-E, dispatch printout.
 - (c) DD Form 518 (Accident-Identification Card) and SF Form 91 (Motor Vehicle Accident Report), vehicle accident forms.
 - (3) Ensure operator makes required entries and signs dispatch printout.
 - (4) Dispatcher and operator check for services due.
 - (5) Dispatcher verifies through operator that before-operational maintenance checks have been completed and vehicle is ready for dispatch.
 - b. For dispatch in (return from dispatch):
 - (1) Collect dispatch equipment record folder from operator.
 - (2) Verify the following entries on DA Form 5982-E within ULLS with the following information.
 - (a) Fuel and oil added.
 - (b) Date and time of return.
 - (c) "Released by" signature.
 - (d) Miles and hours.
 - c. Check remarks section of dispatch for operator entries requiring maintenance support. Report information to maintenance section.
 - d. Log vehicle in from dispatch through ULLS on DA Form 5982-E.
 - e. Report discrepancies in trip records to truckmaster.
 - f. Annotate type cargo and tons moved, as applicable.
 - g. File trip records in accordance with local directives.

Evaluation Preparation: Setup: Provide for the Soldier a facility equipped with dispatching logs, vehicle(s) to track for dispatching purposes, mission information requiring dispatch of vehicles.

Brief Soldier: You are to assume duties as dispatcher. You are to perform all tracking duties, and dispatch vehicles as required for mission support. You are to log necessary vehicle and driver information relevant to accounting for vehicle traffic.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Processed transportation requests.	_____	_____
a. Selected vehicle(s) and driver(s) to be used for mission. Complete initial dispatcher entries on forms.		
b. Compiled all appropriate forms in the equipment record folder. The following forms are required at a minimum.		
(1) DD Form 1970, Completed dispatcher entries.		
(2) DD Form 518.		
(3) SF Form 91.		
(4) DA Form 5987-E (ULLS), Completed dispatcher entries.		
(5) DA Form 5823. This form goes on outside of record folder. Dispatcher must verify vehicle status information before dispatch of vehicle.		
2. Manually dispatched unit vehicle(s) for regular dispatch (units without ULLS).	_____	_____
a. For dispatch out:		
(1) Verified driver license and qualifications with vehicle selected for dispatch.		
(2) Made dispatcher entries on DD Form 1970.		
(a) Date form is started.		
(b) Serial number.		
(c) Bumper number.		
(d) Organization.		
(e) Miles or Kilometers.		
(f) Hours (as applicable).		
(g) Dispatcher signature.		
(h) Print "report to" name.		
(i) Noun nomenclature of vehicle.		
(j) Print name of operator(s).		
(3) Ensured operator makes the following entries on DD Form 1970.		
(a) Signature.		
(b) Time.		
(c) Miles and hours.		
(4) Logged vehicle out on DA Form 2401.		
b. Upon return of vehicle from dispatch (dispatch in), the dispatcher verified the following entries on DD Form 1970.		
(1) Miles and hours.		
(2) Time in and total time.		
(3) "Release by" signature.		
(4) Fuel and oil, if required locally.		
c. Collected dispatch equipment record folder from operator.		
d. Logged vehicle in from dispatch on DA Form 2401.		
e. Annotated type cargo and tons moved, as applicable.		

Performance Measures	<u>GO</u>	<u>NO-GO</u>
<ul style="list-style-type: none"> f. Reported change in vehicle status to maintenance personnel as applicable. g. Reported discrepancies in trip records to truckmaster. h. File trip records in accordance with local directives. 		
3. Dispatched unit vehicle(s) for regular dispatch (units supported by ULLS).	—	—
<ul style="list-style-type: none"> a. For dispatch out (departing on dispatch). <ul style="list-style-type: none"> (1) Verified that operator is registered through ULLS as a licensed, qualified operator. If not registered in ULLS, check operator OF 346. (2) Issued dispatch equipment record folder to operator. Folder should contain: <ul style="list-style-type: none"> (a) DA Form 5988-E (Equipment Inspection Maintenance Worksheet) (automated). (b) DA Form 5987-E, dispatch printout. (c) DD Form 518 (Accident-Identification Card) and SF Form 91 (Motor Vehicle Accident Report), vehicle accident forms. (3) Ensured operator makes required entries and signs dispatch printout. (4) Dispatcher and operator checked for services due. (5) Dispatcher verified through operator that before-operational maintenance checks have been completed and vehicle is ready for dispatch. b. For dispatch in (return from dispatch). <ul style="list-style-type: none"> (1) Collected dispatch equipment record folder from operator. (2) Verified the following entries on DA Form 5982-E within ULLS with the following information. <ul style="list-style-type: none"> (a) Fuel and oil added. (b) Date and time of return. (c) "Released by" signature. (d) Miles and hours. c. Checked remarks section of dispatch for operator entries requiring maintenance support. Report information to maintenance section. d. Logged vehicle in from dispatch through ULLS on DA Form 5982-E. e. Reported discrepancies in trip records to truckmaster. f. Annotated type cargo and tons moved, as applicable. g. Filed trip records in accordance with local directives. 		

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.

References

Required

DA FORM 2401
 DA FORM 5823
 DA FORM 5982-E
 DA PAM 750-8
 DD FORM 1970
 FM 21-305
 FM 55-30
 OF FORM 346

Related

Subject Area 7: Motor Transport Supervision

**Supervise Loading/Unloading a Tracked/Wheeled Vehicle Onto/From Semitrailer
551-88M-2374**

Conditions: Given a coupled tractor with semitrailer combination with before-operation maintenance performed with vehicle operator, payload vehicle, payload vehicle operator, route height and width restriction data, payload vehicle characteristic information, tiedown chains and loadbinders, level ground to operate, ground guide assistance as needed, chock blocks, hearing protection, and work gloves, alley dock or loading ramps.

Special Conditions: Truck-Tractor, payload vehicle, semitrailer and tiedown devices have been inspected and found to be in operational condition.

Standards: You will supervise the proper loading/unloading and tiedown of a payload vehicle on the semitrailer.

Performance Steps

1. Perform a composite risk assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Supervise loading preparations.
 - a. Ensure the following actions are completed in preparation for loading.
 - (1) Remove semitrailer side boards if installed.
 - (2) Ensure semitrailer is clear of all obstructions, nails or any foreign objects that may interfere with safe loading of payload vehicle.
 - (3) Emplace loading ramps between loading dock and rear of semitrailer if necessary.
 - (4) Gather all necessary tiedown materials for vehicle payload.
 - (5) Prepare payload vehicle for loading by:
 - (a) Reducing it by folding in mirrors, lowering or removing radio antennae, and crew served weapons are removed.
 - (b) Ensure canvas and bows, if installed, are removed or secured tightly against payload vehicle to prevent loosening or loss during movement.
 - (c) Secure payload vehicle cargo load (if applicable). If payload vehicle is combat loaded, ensure all items are secured on inside of vehicle.

Performance Steps**WARNING**

CARE SHOULD BE TAKEN TO ENSURE ANY LEAKING TIRE IS REPLACED ON PAYLOAD VEHICLE BECAUSE PREMATURE DEFLATION DURING MOVEMENT COULD CAUSE LOAD TO DANGEROUSLY SHIFT OR FALL FROM SEMITRAILER CAUSING INJURY OR DEATH TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(d) Check payload vehicle tire pressure (wheeled) and inflate to proper pressure.

3. Supervise the positioning of a payload vehicle on loading dock directly in-line with rear of semitrailer.

WARNING

VERIFY PAYLOAD VEHICLE'S CHARACTERISTICS TO INCLUDE ANY COMBAT LOADS DO NOT EXCEED SEMITRAILER WEIGHT CAPACITIES BY CHECKING PAYLOAD VEHICLE DATA PLATES AND DETERMINING WEIGHT OF LOAD.

- a. Position yourself to clearly view movement of payload vehicle and ground guide while payload vehicle is being loaded.
 - b. Note shifting of weight and width of payload vehicle as compared to semitrailer width.
4. Supervise loading payload vehicle onto semitrailer.
 - a. Position yourself to clearly view movement of payload vehicle and ground guide.
 - b. Ensure payload vehicle is guided into position on semitrailer as directed by supervisor or senior vehicle operator displaying hand and arm signals.
 - c. Shutdown payload vehicle, set parking brake (in accordance with vehicle -10 TM).
 5. Supervise securing of payload vehicle onto semitrailer.
 - a. Position yourself to clearly view securing of payload.
 - b. The selection of appropriate anchor points on semitrailer and tiedown clevises on payload vehicle.
 - c. The routing of tiedown devices through all points on semitrailer and payload vehicle using double tiedowns on rear of payload vehicle.
 - d. The tightening of tiedown devices to secure payload vehicle onto semitrailer.
 - e. The securing of all loose tiedown equipment.
 6. Supervise the measuring of the height and width of payload vehicle and semitrailer together.
 - a. Driver uses suitable measuring device such as retractable tape measure or telescoping pole with measuring graduations.
 - b. Ensure tractor-semitrailer is positioned on level ground.

Performance Steps

- c. Driver extends measuring device from ground next to outside of semitrailer edge or semitrailer tires up to highest point of load for height measurement, records measurement.

CAUTIONS

Ensure point on ground is not lower or higher than the semitrailer wheels.

Measurement should be taken more than once to ensure accuracy.

- d. Driver extends measuring device from one side to opposite side of load at widest point, records measurement.
 - e. Compare load measurements to route restrictions to ensure they are not exceeded.
7. Supervise the preparations for unloading operations.
- a. Ensure preparations for unloading are properly executed.
 - (1) Tractor-semitrailer. Emplace loading ramps between loading dock and rear of semitrailer (if needed).
 - (2) Payload vehicle.
 - (a) Remove and store payload vehicle tiedown materials.
 - (b) Remove chock blocks (if used).
 - (c) Ensure payload vehicle operator inspects vehicle and prepares for off-loading.
8. Supervise unloading payload vehicle from semitrailer.
- a. Position yourself to observe unloading a payload vehicle.
 - b. Observe ground guide using hand and arm signals, guide payload vehicle operator to slowly back payload vehicle onto loading dock.
 - c. Ground guide signals payload vehicle operator to shutdown engine and set brakes.

Evaluation Preparation: Setup: Provide for the Soldier a truck tractor with flatbed semitrailer and payload vehicle to load/unload, payload vehicle operator, semitrailer operator, wheel chocks, tiedown devices, and measuring device.

Brief Soldier: You are required to supervise personnel positioning tractor/semitrailer combination on level ground in a location that will allow loading/offloading. They are to position the payload vehicle according to its center of gravity properly on the semitrailer for transport.

Performance Measures

GO **NO-GO**

- 1. Supervised loading operation.
 - a. Ensured the following actions were completed in preparation for loading.
 - (1) Removed semitrailer side boards if installed.
 - (2) Ensured semitrailer was clear of all obstructions, nails or any foreign objects that may interfere with safe loading of payload vehicle.
 - (3) Emplaced loading ramps between loading dock and rear of semitrailer if necessary.

Performance Measures**GO** **NO-GO**

- (4) Gathered all necessary tiedown materials for vehicle payload.
- (5) Prepared payload vehicle for loading by:
 - (a) Reduced it by folding in mirrors, lowered or removed radio antennae, and crew served weapons.
 - (b) Ensured canvas and bows, if installed, were removed or secured tightly against payload vehicle to prevent loosening or loss during movement. Removed payload vehicle canvas and bows if required.
 - (c) Secured payload vehicle cargo load (if applicable). If payload vehicle was loaded, ensured all items were secured inside of vehicle.
 - (d) Checked payload vehicle tire pressure (wheeled) and inflated to proper pressure.
- 2. Supervised the positioning of a payload vehicle on loading dock directly in-line with rear of semitrailer. _____ _____
 - a. Positioned himself/herself to clearly view movement of payload vehicle and ground guide while payload vehicle was being loaded.
 - b. Noted shifting of weight and width of payload vehicle as compared to semitrailer width.
- 3. Supervised loading payload vehicle onto semitrailer. _____ _____
 - a. Positioned himself/herself to clearly view movement of payload vehicle and ground guide.
 - b. Ensured payload vehicle was guided into position on semitrailer as directed by supervisor or senior vehicle operator displaying hand and arm signals.
 - c. Shutdown payload vehicle and set parking brake (in accordance with vehicle -10 TM).
- 4. Supervised securing of payload vehicle onto semitrailer by: _____ _____
 - a. Positioned himself/herself to clearly view securing of payload.
 - b. The selection of appropriate anchor points on semitrailer and tiedown clevises on payload vehicle.
 - c. The routing of tiedown devices through all points on semitrailer and payload vehicle using double tiedowns on rear of payload vehicle.
 - d. The tightening of tiedown devices to secure payload vehicle onto semitrailer.
 - e. The securing of all loose tiedown equipment.
- 5. Supervised the measuring of the height and width of payload vehicle and semitrailer together. _____ _____
 - a. Ensured driver used suitable measuring device.
 - b. Ensured tractor-trailer was positioned on level ground.
 - c. Ensured driver extended measuring device from ground next to outside of semitrailer edge to the highest point of load.
 - d. Ensured driver measured from one side to the other side at the widest point.
 - e. Ensured driver compared road measurements to route restrictions.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
6. Supervised the preparations for unloading operations.	_____	_____
a. Ensured preparations for unloading were properly executed.		
(1) Tractor-semitrailer. Emplaced loading ramps between loading dock and rear of semitrailer (if needed).		
(2) Payload Vehicle.		
(a) Removed and stored payload vehicle tiedown materials.		
(b) Removed chock blocks (if used).		
(c) Ensured payload vehicle operator inspected vehicle and prepared for off-loading		
7. Supervised using a loading dock, unload payload vehicle from semitrailer.	_____	_____
a. Positioned himself/herself to observe unloading a payload vehicle.		
b. Observed Ground Guide using hand and arm signals to guide payload vehicle operator to slowly back payload vehicle onto loading dock.		
c. Observed Ground Guide signaling payload vehicle operator to shutdown engine and set brakes.		

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.

References

Required

FM 5-19
FM 21-60
SDDCTEA PAM 55-20
TM 9-2320-303-10
TM 9-2330-359-14&P

Related

FM 21-305

Subject Area 8: Convoy Execution/Defense

**Implement Defensive Procedures When Under Attack/Ambush in a Truck Convoy
551-88M-2408**

Conditions: As a vehicle operator within a convoy, given a vehicle with before-operation maintenance performed, individually assigned weapon, load-bearing vest (LBV)/w-Kevlar helmet, flak vest (if available), hearing and eye protection, basic issue items (BI), and guidance from convoy commander.

Standards: As a vehicle operator, you will successfully employ passive and active defensive measures to counter enemy air attack, sniper fire, and ambush and or improvised explosive device (IED) by following established convoy hand and arm signals, reporting actions to higher authority, and reacting to incoming enemy fires. As a result, higher authorities are notified, your vehicle remains operational, and injuries to personnel and damage to equipment are minimal.

Performance Steps

1. Perform a composite risk assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Implement active defense measures to counter enemy sniper fire.
 - a. Increase speed to get through area without stopping.
 - b. Use pre-designated signal to warn of sniper attack.
 - c. Wear individual LCE/w-Kevlar helmet and flak vest.
 - d. Notify higher authority of sniper attack.
3. Implement passive defense measures to counter sniper fire.
 - a. Initiate pre-designated signal for sniper attack.
 - b. Initiate pre-designated reactionary guidance for vehicle operation.
 - c. Cover/conceal load prior to movement.
4. Implement active defense measures to counter enemy ambush (road not blocked).
 - a. Harden vehicles.
 - b. Cover loads.
 - c. Wear protective clothing.
 - d. Use assistant drivers.
 - e. Use prearranged signals to warn the convoy of an ambush.
 - f. Receive briefing on immediate action drills.
 - g. Maintain proper vehicle interval.
 - h. Move through the kill zone, if possible.
 - i. Rehearse crew drills prior to convoy departure.
 - j. Does not block the road.
 - k. Rapidly respond to orders.
 - l. Aggressively return fire, as directed.
 - m. Push disabled vehicle(s) off the road, as directed, if progress is blocked.
 - n. Take evasive maneuvers (with vehicle) as directed, to avoid enemy fire.

Performance Steps

5. Implement passive defense measures to counter enemy ambush (road not blocked).
 - a. Do not present a profitable target.
 - b. Use OPSEC to deny the enemy foreknowledge of the convoy.
6. Implement active defense measures to counter enemy ambush (road blocked).
 - a. In the kill zone.
 - (1) Dismount a disabled vehicle by exiting the vehicle away from the direction of enemy fire.
 - (2) Take cover.
 - (3) Return maximum volume of fire on enemy position(s) as directed.
 - b. Not in the kill zone.
 - (1) Does not enter kill zone.
 - (2) Reacts quickly to orders.
 - (3) Pull off road in a defensive position as directed.
 - (4) Dismount and take up a defensive firing position.
 - c. Rehearse crew drills prior to convoy departure
7. Implement passive defense measures to counter enemy ambush (road blocked).
 - a. Does not present a profitable target.
 - b. Use OPSEC to deny the enemy foreknowledge of the convoy.
8. Implement active defensive measures to counter unexploded IED.
 - a. Stop vehicle as directed at minimum of 300 meters from suspected IED.
 - b. Accelerate and drive by suspected IED using opposite lane if vehicle is within 150 meters of suspected IED when it is discovered
 - c. Mark location of suspected IED as you drive by using method prescribed by unit SOP.
 - d. Maneuvers vehicle as directed to avoid unexploded IED. Including altering route of march as directed.
9. Implements passive measures to counter unexploded IED.
 - a. Maintains a high state of situational awareness to include-
 - (1) Scanning from side to side from 9 to 3 o'clock (without assistant driver)
 - (2) Scanning side to side from 9 to 1 o'clock (with assistant driver)
 - (3) Watching for indicators of an IED such as disturbed roadway, presence of dead animals, abandoned vehicles or containers close to roadway, overpasses, individuals or groups of people near roadway, (especially with cell phones), absence of people in normally active areas, unusual markings on or near the road, presence of a media crew.
10. Implements active measures to counter exploded IED.
 - a. React as if in a normal ambush.
 - b. Clear the kill zone
 - c. Look for a secondary IED
 - d. Attempt to determine source of ignition of IED
 - e. Render assistance as directed to casualties in kill zone.
 - f. Does not stop unless disabled.
 - g. Once contact has been broken and the area secured, proceed to nearest rally point.

Evaluation Preparation: Setup: Provide for the Soldier a situation that must involve participation in a convoy movement that has been attacked by an enemy force. Provide trucks to constitute a convoy, vehicle operators, designated route, mission information, supervisory guidance, and organic assigned weapons.

Brief Soldier: You are to participate in defending a convoy during movement. You must operate your assigned weapon and engage targets consistent with active or passive defense measures. You are to react to supervisory instructions or target engagement and actions to take in case of enemy attack on convoy.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Implemented active defense measures to counter enemy sniper fire.	—	—
2. Implemented passive defense measures to counter sniper fire.	—	—
3. Implemented active defense measures to counter enemy ambush (road not blocked).	—	—
4. Implemented passive defense measures to counter enemy ambush (road not blocked).	—	—
5. Implemented active defense measures to counter enemy ambush (road blocked).	—	—
6. Implemented passive defense measures to counter enemy ambush (road blocked).	—	—
7. Implemented active defensive measures to counter unexploded IED.	—	—
8. Implemented passive measures to counter unexploded IED.	—	—
9. Implemented active measures to counter exploded IED.	—	—

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.

References

Required
 FM 21-305
 FM 55-30

Related

Subject Area 9: Heavy Equipment Transport (HET) Operations

**Operate the M1070/M1000 Semitrailer Combination With Disabled Bogie
551-88M-2300**

Conditions: Given an M1000 HET semitrailer with simulated or actual disabled bogie and the mission to use the semitrailer for transport, semitrailer basic issue items (BII) to include the axle isolation chain assembly, necessary tools to cage the brakes of the effected bogie, assistance from other crewmen as necessary, and a level area to park the semitrailer to perform operation.

Standards: Properly cage the brakes of the disabled bogie, lower the platform, and prepare the disabled bogie to allow semitrailer movement without damaging equipment or injuring personnel.

Performance Steps

1. Perform a composite risk assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Perform all steps required to cage the brakes of the affected bogie.

CAUTION

The tractor/semitrailer combination loaded or unloaded, is limited to operating with only one disabled bogie. The following procedure specifically identifies how to prepare the semitrailer for transport. If this procedure is not strictly followed, severe damage to equipment may result.

- a. Refer to TM 9-2330-381-14, paragraph 2-33, pages 2-213 to 2-216.
 - b. Adhere to all listed WARNINGS and CAUTIONS in the TM for this operation.
3. Lower semitrailer platform until suspension (bogie) is completely compressed. Refer to TM 9-2330-381-14, paragraph 2-19, pages 2-56 to 2-58.
4. Prepare disabled bogie to allow semitrailer movement.
 - a. Refer to TM 9-2330-381-14, paragraph 2-34, subparagraph n, pages 2-216 to 2-221.
 - b. Adhere to all WARNINGS and CAUTIONS in the TM for this operation.

Evaluation Preparation: Setup: Provide for the Soldier a HETS that has a disabled bogie, level ground to operate.

Brief Soldier: You are to configure the HET combination in such a manner as to allow you to operate the system (coupled tractor-semitrailer) with a disabled bogie on the semitrailer. You are to make any adjustments according to the TM without damaging the equipment or injuring personnel.

Performance Measures**GO****NO-GO**

- | | | |
|---|-------|-------|
| 1. Performed all steps required to cage the brakes of the affected bogie. | _____ | _____ |
| 2. Lowered semitrailer platform until suspension (bogies) is completely compressed. | _____ | _____ |
| 3. Prepared disabled bogie to allow semitrailer movement. | _____ | _____ |

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.

References**Required**

TM 9-2320-360-10

TM 9-2330-381-14

Related

TC 21-305-9

Operate the Gas Particulate Filter Unit (GPFU) on the M1070 Tractor

551-88M-2301

Conditions: Given a M1070 Heavy Equipment Transporter (HET) tractor with functioning GPFU, full protective mission oriented protective posture (MOPP) gear to include either the M25A1 or M42 protective masks.

Standards: Operate the Gas Particulate Filter Unit on the M1070 Tractor after assuming MOPP level 4 posture in such a manner as to allow mission continuance without injuring personnel or damaging any equipment or surroundings.

Performance Steps

1. Perform a composite risk assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Assume a MOPP level 4 status.
 - a. Refer to FM 3-11.4.
 - b. Refer to TM 3-4240-280-10 for wear of the M24 protective mask.
 - c. Refer to TM 3-4240-300-10-2 for the M42 protective mask.
3. Perform all operational steps to operate the GPFU.
 - a. Refer to TM 9-2320-360-10, paragraph 2-20, subparagraph c, to perform steps (1) through (7), on pages 2-173 through 2-175.
 - b. Adhere to all WARNINGS and notes in the vehicle TM for this operation.
4. Remove the gas particulate filter hose.
 - a. Upon receiving the "all clear" signal, or when required to exit the vehicle, perform unmasking procedures.
 - b. Refer to TM 9-2320-360-10, paragraph 2-20, subparagraph d, to perform steps (1) through (5), on pages 2-176 and 2-177.

Evaluation Preparation: Setup: Position and provide for the Soldier a HET Truck, M1070, individual protective mask, and the requirement to operate the GPFU.

Brief Soldier: You are required to operate the GPFU on the HET Tractor. You will be in MOPP level 4 for this action.

Performance Measures

	<u>GO</u>	<u>NO-GO</u>
1. Assumed a MOPP level 4 status.	—	—
2. Performed all operational steps to operate the GPFU.	—	—
3. Removed the gas particulate filter hose.	—	—

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.

References**Required**

FM 3-11.4

TM 3-4240-280-10

TM 3-4240-300-10-2

TM 9-2320-360-10

Related

Operate the APU on the M1000 Semitrailer
551-88M-2302

Conditions: 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.

Standards: Properly perform all required startup procedures for the APU without injury to personnel or damage to equipment.

Performance Steps

1. Perform a composite risk assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Start the APU (normal conditions). Refer to TM 9-2330-381-14, paragraph 2-16, subparagraph a, pages 2-46 to 2-50 for applicable procedures.

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.**

Performance Steps

CAUTIONS

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

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 starting the APU, rotate switch to OFF position or damage to equipment may result

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.

3. Start the APU (cold weather starting). Refer to TM 9-2330-381-14, paragraph 2-17, page 2-52 for cold weather starting.

NOTE: The following procedures apply when ambient temperatures range from 40 degrees F to -25 degrees F (4 degrees C to -31 degrees C). When the temperature is below -25 degrees F (-31 degrees C), refer to Arctic APU Starting in paragraph 2-31 of the semitrailer TM.

4. Shutdown the APU. Refer to TM 9-2330-381-14, paragraph 2-16, subparagraph b, and pages 2-50 for proper shutdown procedures.
5. Shutdown APU for extended storage (short and long term). Refer to TM 9-2330-381-14, paragraph 2-16, subparagraph b (3), (4), (5) for extended storage procedures.

Evaluation Preparation: Setup: Provide for the Soldier a HET truck tractor, a HET semitrailer with functional APU, and parked on level ground.

Brief Soldier: You are required to perform all steps necessary to operate the APU on the M1000 semitrailer. You will have assistance as necessary.

Performance Measures

GO NO-GO

- | | | |
|---|-------|-------|
| 1. Started the APU (normal conditions). | _____ | _____ |
| 2. Started the APU (cold weather starting). | _____ | _____ |
| 3. Shutdown the APU. | _____ | _____ |
| 4. Shutdown the APU for extended storage. | _____ | _____ |

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.

References**Required**

TM 9-2330-381-14

Related

Adjust the Gooseneck on the M1000 Semitrailer
551-88M-2303

Conditions: Given an M1000 semitrailer with basic issue items (BII) and functional auxiliary power unit (APU), hearing protection, and work gloves.

Standards: Successfully make adjustments to gooseneck by raising or lowering as necessary. All operational steps will be performed without injury to personnel or damage to equipment.

Performance Steps

1. Perform a composite risk assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Start the APU.
 - a. Uncouple the semitrailer from the tractor if coupled.
 - b. Refer to TM 9-2330-381-14, paragraph 2-18, subparagraph a, page 2-52 for applicable steps.
3. Operate gooseneck control valves as necessary to raise or lower gooseneck (refer to TM 9-2330-381-14, paragraph 2-18, subparagraph b, page 2-52 and 2-53 for applicable steps).

WARNING

WEAR HEARING PROTECTION WHILE APU IS RUNNING. ENSURE THAT TRACTOR IS UNCOUPLED FROM SEMITRAILER BEFORE BEGINNING OPERATION. ADHERE TO ALL WARNINGS AND CAUTION STATEMENTS IN THE TM. PRIOR TO ADJUSTING GOOSENECK HEIGHT, ENSURE THAT BOTH GOOSENECK ISOLATION AND SUSPENSION SHUT-OFF VALVE HANDLES HAVE BEEN PULLED OUTWARD TO THE ADJUST POSITION OR INJURY TO PERSONNEL FROM UNEXPECTED MOVEMENT OR DAMAGE TO EQUIPMENT MAY RESULT.

4. Shutdown APU (refer to TM 9-2330-381-14, paragraph 2-16, subparagraph b, page 2-50 and 2-51).

Evaluation Preparation: Setup: Provide for the Soldier an M1000 semitrailer, uncoupled from the M1070 HET tractor.

Brief Soldier: You are required to make adjustments to the gooseneck of the M1000 semitrailer. The semitrailer should not be coupled to the tractor and the landing support legs should be lowered to support the semitrailer before starting operation.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Performed a composite risk assessment.	_____	_____
2. Started the APU.	_____	_____
a. Uncoupled the semitrailer from the tractor if coupled (refer to TM 9-2320-360-10).		
b. Referred to TM 9-2330-381-14, paragraph 2-18, subparagraph a, page 2-52 for applicable steps.		
3. Operated gooseneck control valves as necessary to raise or lower gooseneck (refer to TM 9-2330-281-14, paragraph 2-18, subparagraph b, pages 2-52 and 2-53 for applicable steps).	_____	_____
4. Shutdown APU.	_____	_____

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.

References

Required

TM 9-2330-381-14

Related

Adjust the Platform Height on the M1000 Semitrailer

551-88M-2304

Conditions: Given an M1000 semitrailer with basic issue items (BII) and operational auxiliary power unit (APU), hearing protection, and work gloves.

Special Conditions: If semitrailer is loaded, the semitrailer must be coupled to tractor to perform height adjustments. See semitrailer technical manual (TM) for details.

Standards: Successfully make the required adjustments to the platform height of the semitrailer without injury to personnel or damage to equipment.

Performance Steps

1. Perform a composite risk assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Start the APU.
 - a. Refer to TM 9-2330-381-14, paragraph 2-16, subparagraph a, pages 2-46 to 2-50.
 - b. Run APU at full throttle.
3. Prepare semitrailer for platform height adjustments. Refer to TM 9-2330-381-14, paragraph 2-19, subparagraphs b through e, pages 2-54 and 2-55.

NOTE: The brakes on the semitrailer should be released when making platform adjustments. If the parking brakes are not released, platform adjustments will be much slower and harder to accomplish.

4. Raise platform height. Refer to TM 9-2330-381-14, paragraph 2-19, subparagraph f, page 2-56.
5. Lower platform height. Refer to TM 9-2330-381-14, paragraph 2-19, subparagraph g, page 2-56.
6. Make other platform height adjustments as necessary. Refer to TM 9-2330-381-14, paragraph 2-19, subparagraphs h, (l) to (8), and i to m, page 2-57.
7. Shutdown the APU. Refer to TM 9-2330-381-14, paragraph 2-16, subparagraph b, pages 2-50 and 2-51.

Evaluation Preparation: Setup: Provide for the Soldier a Heavy Equipment Transporter (HET) and a Heavy Equipment Transport Semitrailer (HETS) positioned on level ground.

Brief Soldier: Inform the Soldier that adjustments to the platform height are necessary and determination must be made as to what steps are necessary to do so.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Performed a composite risk assessment.	_____	_____
2. Started the APU.	_____	_____
3. Prepared semitrailer for platform height adjustments.	_____	_____
4. Raised platform height.	_____	_____
5. Lowered platform height.	_____	_____
6. Made other platform height adjustments as necessary.	_____	_____
7. Shutdown the APU.	_____	_____

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.

References**Required**

TM 9-2330-381-14

Related

Operate the Loading Ramps on the M1000 Semitrailer

551-88M-2305

Conditions: Given an M1000 semitrailer with basic issue items (BII), hearing protection, work gloves, and assistance as needed from other crew members.

Special Conditions: Position semitrailer on level ground when possible.

Standards: You will successfully operate the loading ramps on the M1000 semitrailer without injury to personnel or damage to equipment.

Performance Steps

1. Perform a composite risk assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Adjust loading ramps. Refer to TM 9-2330-381-14, paragraph 2-20, subparagraph a, on pages 2-58 through 2-60 for applicable steps.
3. Lower ramps. Refer to TM 9-2330-381-14, paragraph 2-20, subparagraph b, on pages 2-61 and 2-62 for applicable steps.
4. Raise ramps. Refer to TM 9-2330-381-14, paragraph 2-20, subparagraph c, on pages 2-62 and 2-64 for applicable steps.

Evaluation Preparation: Setup: Emplace a Heavy Equipment Transport Semitrailer (HETS) onto level ground. Provide an assistant.

Brief Soldier: Inform the Soldier to lower and raise the loading ramps on the M1000 semitrailer without injury to anyone or damage to the semitrailer. This is to be a two-person operation under your guidance.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Performed a composite risk assessment.	_____	_____
2. Adjusted loading ramps.	_____	_____
3. Lowered ramps.	_____	_____
4. Raised ramps.	_____	_____

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.

References

Required

TM 9-2320-360-10

TM 9-2330-381-14

Related

Manually Steer the M1000 Semitrailer

551-88M-2306

Conditions: Given an M1000 semitrailer with basic issue items (BII) and operational auxiliary power unit (APU), hearing protection, work gloves, and assistance as needed.

Special Condition: All operations involving the M1070 and M1000 require two persons.

Standards: You will successfully perform a manual steering operation using the M1000 semitrailer without injury to personnel or damage to equipment.

Performance Steps

1. Perform a composite risk assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Start the APU. Refer to TM9-2330-381-14, paragraph 2-16, subparagraph a, pages 2-46 through 2-50.
3. Prepare semitrailer for manual steering operation. Refer to TM 9-2330-381-14, paragraph 2-21, subparagraphs b through f, pages 2-65 and 2-66 for applicable steps.
4. Steer bogie(s) manually in desired direction. Reference TM 9-2330-381-14, paragraph 2-21, subparagraphs g through i, page 2-66 for applicable steps.
5. Prepare semitrailer for travel. Refer to TM 9-2330-381-14, paragraph 2-21, subparagraph j (1) through (4), page 2-66 and 2-67 for applicable steps.
6. Shutdown the APU. Refer to TM 9-2330-381-14, paragraph 2-16, subparagraph b, on pages 2-50 and 2-51.

Evaluation Preparation: Setup: Emplace a M1000 semitrailer on level ground.

Brief Soldier: You are required to manually steer the semitrailer by adhering to all steps and WARNING and CAUTION statements in the TM. You may proceed as directed to move semitrailer.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Performed a composite risk assessment.	_____	_____
2. Started the APU.	_____	_____
3. Prepared semitrailer for manual steering operation.	_____	_____
4. Steered bogie(s) manually in desired direction.	_____	_____
5. Prepared semitrailer for travel.	_____	_____
6. Shutdown the APU.	_____	_____

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.

References**Required**

TM 9-2320-360-10

TM 9-2330-381-14

Related

Drive a Heavy Equipment Transporter (HET) on Improved Roads

551-88M-2375

Conditions: On an improved roadway, given an M1070 coupled to an M1000 semitrailer (loaded or unloaded) with before-operation preventive maintenance performed, hearing protection, route to maneuver, and ground guides as necessary.

Standards: You will safely operate the HET coupled with the Heavy Equipment Transport Semitrailer (HETS) on improved roadway without injury to personnel or damage to equipment or surroundings.

Performance Steps

1. Perform a composite risk assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Prepare HET with HETS for operation.

NOTE: As the referenced TM is updated, the specific location within the manual for referenced procedures may change.

- a. Adjust the driver's seat as needed.
 - b. Adjust all mirrors as needed.
 - c. Ensure that load is secured properly to the semitrailer (if loaded).
 - d. Start vehicle engine (refer to TM 9-2320-360-10, paragraph 2-12, subparagraphs a and b, page 2-126 through 2-133 for starting procedures).
 - e. Monitor all gauges for proper readings and allow engine to warm up.
 - f. Ensure all low air pressure warning lights and buzzers go out as intended by TM.
 - g. Adhere to all WARNINGS and CAUTIONS in the TM applicable to this procedure.
3. Place HET with HETS into motion.
 - a. Refer to TM 9-2320-360-10, paragraph 2-9, subparagraph a, page 2-114 for proper operating procedures.
 - b. Adhere to all WARNINGS and CAUTIONS in the TM applicable to this procedure.
4. Navigate HET with HETS through normal traffic situations and road conditions.
 - a. Use brake retarder (unless road conditions prohibit use).
 - b. Use alternate transfer gear range (as needed).
 - c. Adhere to all restricted speed ranges for the appropriate driving conditions/load.
 - d. Monitor vehicle indicator lights and gauges, during movement, for proper indications (part of during-operation maintenance).
 - e. Maintain awareness of vehicle operation to include-
 - (1) Unusual engine noises or vibration.
 - (2) Unusual handling characteristics or erratic behavior.
 - (3) Vehicle position on the roadway.
 - (4) Upcoming obstacles that may hinder vehicle progress.

Performance Steps

- f. Negotiate tractor semitrailer combination through the following obstacles-
- (1) Right or left turns.
 - (2) Heavy traffic areas.
 - (3) Over bridges.
 - (4) Through underpasses.
 - (5) Steep upgrades or downgrades.
 - (6) Curves in the roadway.
 - (7) Intersections (for stopping and not stopping).
5. Shutdown vehicle. Refer to TM 9-2320-360-10, paragraph 2-12, subparagraph g, pages 2-139 and 2-140 for proper shutdown procedures.

Evaluation Preparation: Setup: Provide for the Soldier a coupled Heavy Equipment Transporter (HET) that has before-operational maintenance checks performed and has been dispatched for operation and a route of improved roads on which to travel.

Brief Soldier: Instruct the Soldier to mount the vehicle, make the necessary driver adjustments, and follow the designated route to destination. All vehicle operations must occur without injury to any personnel or damage to vehicle or surroundings.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Performed a composite risk assessment.	_____	_____
2. Prepared HET with HETS for operation.	_____	_____
3. Placed HET with HETS into motion.	_____	_____
4. Navigated HET with HETS through normal traffic situations and road conditions.	_____	_____
5. Shutdown vehicle.	_____	_____

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.

References**Required**

DA FORM 2404
DA FORM 5987-E
DA FORM 5988-E
DD FORM 1970
FM 21-305
TM 9-2320-360-10
TM 9-2330-381-14

Related

Load/Unload a Tracked/Wheeled Vehicle Onto a Heavy Equipment Transporter (HET)**551-88M-2376**

Conditions: Given a HET (M1070), a Heavy Equipment Transport Semitrailer (HETS) (M1000) already coupled, blocking and bracing materials, on vehicle equipment (OVE), hearing protection, a tracked vehicle to be loaded, assistance from other crew members, and directions from supervisor.

Special Conditions: HETS (tractor and semitrailer combination) should be placed on solid level ground with room to maneuver as necessary. Operations with the HETS require two persons to perform. One person will be used as assistance.

Standards: You will provide assistance as directed in the loading of a tracked vehicle and assist in the proper tiedown of vehicle on semitrailer without injury to personnel or damage to HETS or tracked vehicle being loaded.

Performance Steps

1. Perform a composite risk assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Assist in preparing the M1070/M1000 HETS for loading operation.
 - a. Start the vehicle. Refer to TM 9-2320-360-10, paragraph 2-12, subparagraph a, pages 2-126 to 2-130.
 - b. Ensure that the CTIS switch is set to the desired setting for the expected road conditions and allow tractor to sit until selected CTIS indicator remains lit.
3. Assist in aligning the semitrailer, using the tractor, as close as possible to payload.
 - a. Payload should be approximately 15 feet (4.6m) on level ground when positioned.

WARNING

LOAD SEMITRAILER ON AS LEVEL GROUND AS POSSIBLE. IN ADVERSE CONDITIONS, LOADING CAN BE DONE ON GRADES UP TO 10 PERCENT WITH A MAXIMUM OFFSET ANGLE OF 10 DEGREES BETWEEN TRACTOR AND SEMITRAILER. AVOID EXCEEDING THESE LIMITATIONS TO PREVENT PAYLOAD FROM ROLLING ON SEMITRAILER AND CAUSING SERIOUS INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- b. Visually check tractor/semitrailer offset angle by having spotter check relationship between steering wedge bolt and weld circle at bottom rear of pickup plate. If inside edge of bolt aligns with outside edge of weld circle, offset angle is 10 degrees. Make any required adjustments.
 - c. Apply tractor parking brakes.

Performance Steps**WARNING**

USING THE M1070 TRACTOR, SEMITRAILER WILL NOT BACK LIKE A NORMAL SEMITRAILER BECAUSE OF SEMITRAILER STEERING SYSTEM. THE OPERATOR MUST BACK TRACTOR/SEMITRAILER BY TURNING TRACTOR STEERING WHEEL IN THE OPPOSITE DIRECTION OF WHAT WOULD BE USED FOR BACKING WITH A NORMAL SEMITRAILER OR INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT MAY RESULT.

4. Assist in the preparation of the semitrailer to receive payload.
 - a. Refer to TM 9-2330-381-14, paragraph 2-26, subparagraph a (7) to paragraph 2-26, subparagraph a (29), pages 2-93 to 2-102.
 - b. Adhere to all WARNING and CAUTION statements in the semitrailer TM applicable to this operation.

NOTE: Due to semitrailers being outfitted with various chains (1/2 inch and/or 3/4-inch link sizes), all chains must be inventoried in the platform storage compartment prior to placing chains on platform. Once chains are inventoried, read and familiarize yourself with the information in steps a(20) (a) thru (h) of the semitrailer TM to determine tiedown needed to properly secure the payload or injury to personnel and damage to equipment may result.

5. Assist in loading payload onto semitrailer.
 - a. Refer to TM 9-2330-381-14, paragraph 2-26, subparagraph a (30) to paragraph 2-26, subparagraph a (40), pages 2-103 to 2-107.
 - b. Adhere to all cautions and warnings in the semitrailer TM applicable to this operation.

Performance Steps**WARNINGS**

TWO SPOTTERS ARE REQUIRED FOR LOADING AND UNLOADING OPERATIONS. THE PAYLOAD OPERATOR MUST KNOW THE POSITION OF SPOTTERS AT ALL TIMES OR INJURY TO PERSONNEL MAY RESULT.

DO NOT POSITION A SPOTTER OR GOOSENECK IF PAYLOAD IS TO BE BACKED ONTO SEMITRAILER PLATFORM OR INJURY TO PERSONNEL MAY RESULT.

UNNECESSARY PERSONNEL MUST STAND WELL CLEAR OF THE VEHICLES, ESPECIALLY BEHIND THE PAYLOAD (ENGINE/TURBINE EXHAUST) DURING LOADING OPERATIONS. AT NO TIME DURING ANY LOADING OPERATION WHILE THE PAYLOAD IS MOVING SHOULD PERSONNEL BE ON THE SEMITRAILER PLATFORM. THE PAYLOAD OPERATOR MUST DRIVE THE PAYLOAD SLOWLY UP THE LOADING RAMPS AND ONTO THE PLATFORM OR INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT MAY RESULT.

FAILURE TO SET THE PAYLOAD PARKING BRAKE COULD ALLOW THE PAYLOAD TO ROLL BACKWARD CAUSING INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.

6. Assist in securing payload to semitrailer.
 - a. Refer to TM 9-2330-381-14, paragraph 2-26, subparagraph a (41) to paragraph 2-26, subparagraph a (48), pages 2-108 to 2-111.
 - b. Adhere to all cautions and warnings in the semitrailer TM applicable to this operation.

CAUTIONS

The streetside angle rear payload tiedown chain must cross over the top of the curbside rear payload tiedown chain or the chains will interfere with each other and damage to equipment may result.

Beacon warning light must be raised or loading ramps adjusted or damage to equipment will occur.

Evaluation Preparation: Setup: Provide for the Soldier a HET with HETS, able or disabled payload vehicle, level ground to operate, assistance from another crew member.

Brief Soldier: You are to load an able/disabled tracked/wheeled vehicle onto the Heavy Equipment Transporter (HET). You are to use assistance as provided and will complete all required steps from the TMs without injury to personnel or damage to system or payload vehicle.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Performed a composite risk assessment.	_____	_____
2. Assisted in preparing the M1070/M1000 HETS for loading operation.	_____	_____
3. Assisted in aligning the semitrailer, using the tractor, as close as possible to payload.	_____	_____
4. Assisted in the preparation of the semitrailer to receive payload.	_____	_____
5. Assisted in loading payload onto semitrailer.	_____	_____
6. Assisted in securing payload onto semitrailer.	_____	_____

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.

References

Required

TM 9-2320-360-10

TM 9-2330-381-14

Related

Skill Level 3

Subject Area 1: Accident Forms and Reporting

**Review SF Form 91, Operator's Report of Motor Vehicle Accident
551-88M-3353**

Conditions: You are the supervisor of a Soldier involved in an Army motor vehicle accident. The Soldier involved in the accident has completed the SF Form 91 (Motor Vehicle Accident Report) and has provided the SF Form 91 for supervisor review and completion.

Standards: You will review the SF Form 91 and confer with the vehicle driver to verify accuracy of information. You will complete the supervisory sections of the form and ensure that the form is turned in to the unit commander or his/her designated representative.

Performance Steps

1. Review SF Form 91 for operator entries (pages 1, 2, and 3).

NOTE: Verify by asking driver that DD Form 518 (Accident-Identification Card) has been completed and provided to the other driver(s) involved in the accident at the accident scene.

NOTE: This form is used to record vital information about the accident and given to the commander of the person(s) involved in the accident.

- a. Ensure that sections I through IX are filled out by the vehicle operator. Information must be entered clearly, accurately, and completely. Sections follow:
 - I - Federal Vehicle Data - Self-explanatory, see form.
 - II - Other Vehicle Data - Self-explanatory, see form.
 - III - Killed or Injured - Self-explanatory, see form.
 - IV - Accident Time and Location - Follow instructions on form.
 - V - Witness/ Passenger - Self-explanatory, see form.
 - VI - Property Damage - Self-explanatory, see form.
 - VII - Police Information - Self-explanatory, see form.
 - VIII - Extra Details - Self-explanatory, see form. Use this section if needed but be clear and detailed in providing information and indicate which section you refer from.
 - IX - Federal Driver's Certification - Driver will read the privacy act statement and sign the form indicating information provided is correct.
2. Complete supervisor entries of SF Form 91.
 - a. Complete section X, items 72 to 82c (page 3) as follows (self-explanatory).
 - 72 - Origin.
 - 73 - Destination.
 - 74 - Exact purpose of trip.
 - 75 - Date and Time (when trip began).
 - 76 - Date and Time (when accident occurred).
 - 77 - Authority for the trip.
 - 78 - Deviation from direct route.
 - 79 - Was the trip during established working hours?

Performance Steps

- 80 - Did the operator, while en route, engage in any activity other than that for which the trip was authorized.
- 81a - Did the accident occur within the employee's scope of duty?
- 81b - Comments.
- 82a - Name and title of supervisor.
- 82b - Supervisor's signature and date.
- 82c - Telephone number.
- b. Refer form to unit commander or accident investigator as applicable.

Evaluation Preparation: Setup: Provide a completed SF Form 91 from a subordinate vehicle operator.

Brief Soldier: You are to review the accident report and provide your input to the form as the Soldier's supervisor and turn the form in to your commander.

Performance Measures

GO **NO-GO**

1. Reviewed SF Form 91 for operator entries (pages 1, 2, and 3).
 - a. I - Federal Vehicle Data - Self-explanatory, see form.
 - II - Other Vehicle Data - Self-explanatory, see form.
 - III - Killed or Injured - Self-explanatory, see form.
 - IV - Accident Time and Location - Follow instructions on form.
 - V - Witness/ Passenger - Self-explanatory, see form.
 - VI - Property Damage - Self-explanatory, see form.
 - VII - Police Information - Self-explanatory, see form.
 - VIII - Extra Details - Self-explanatory, see form. Use this section if needed but be clear and detailed in providing information and indicate which section you refer from.
 - IX - Federal Driver's Certification - Driver will read the privacy act statement and sign the form indicating information provided is correct.
2. Completed supervisor entries of SF Form 91.
 - a. Complete section X, items 72 to 82c (page 3) as follows (self-explanatory).
 - 72 - Origin.
 - 73 - Destination.
 - 74 - Exact purpose of trip.
 - 75 - Date and Time (when trip began).
 - 76 - Date and Time (when accident occurred).
 - 77 - Authority for the trip.
 - 78 - Deviation from direct route.
 - 79 - Was the trip during established working hours?
 - 80 - Did the operator, while en route, engage in any activity other than that for which the trip was authorized.
 - 81a - Did the accident occur within the employee's scope of duty?
 - 81b - Comments.
 - 82a - Name and title of supervisor.
 - 82b - Supervisor's signature and date.
 - 82c - Telephone number.
 - b. Refer form to unit commander or accident investigator as applicable.

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.

References**Required**

DD FORM 518

FM 21-305

SF FORM 91

Related

AR 385-10

Subject Area 3: Motor Vehicle Operator Maintenance

Supervise Preventive Maintenance Checks and Services**551-88M-3334**

Conditions: Given Soldier(s) to supervise that are all equipped to perform preventive maintenance with the following items: either DA Form 2404 (Equipment Inspection and Maintenance Worksheet) or DA Form 5988-E (Equipment Inspection Maintenance Worksheet), black ink pen, applicable -10 series technical manual (TM), hearing protection, vehicles, trailers or equipment to perform the maintenance on, local maintenance standing operating procedure (SOP), and any other tools (organizational vehicle maintenance [OVM], basic issue items [BII], additional authorization list [AAL]) or cleaning items needed.

Standards: Supervisor ensures that all Soldiers properly perform preventive maintenance according to the applicable TM by detecting all faults on the equipment and either immediately correcting detected faults, or annotating uncorrectable faults on the available forms (DA Form 2404 or DA Form 5988-E), and by notifying their supervisor (you) as required. Ensure the proper use of tools and all safety precautions are adhered to. The operators perform all applicable maintenance checks without injury to personnel or damage to tools, equipment or vehicles.

Performance Steps

1. Ensure that Soldier(s) are prepared to begin preventive maintenance inspection.
 - a. All forms (DA Form 2404 or DA Form 5987-E) are available and filled out properly in accordance with DA Pamphlet 750-8.
 - b. The applicable and current TM or extracts are being used.
 - c. All equipment or vehicle-issued tools and/or equipment needed for inspection are present and in serviceable condition.
 - d. Ensure that no jewelry is worn during maintenance that may pose a safety hazard to personnel. Refer to vehicle or equipment TM as needed.
 - e. Ensure that hearing protection or any other applicable safety equipment/clothing is available and used as needed/required.
 - f. Ensure that vehicle or equipment is properly grounded, as applicable.
2. Ensure the operator(s) are complying with established standards in the vehicle or equipment TM while performing before-operation checks.
 - a. Ensure that operator(s) refer to applicable maintenance tables for the before-operation inspection.
 - b. Solicit feedback on deficiencies found during inspection.
 - c. Assist the Soldier(s) as needed, in determining replacement part availability.
 - d. Monitor and ensure maintenance support availability as needed.
 - e. Ensure that maintenance element is informed of any changes in vehicle operational status as a result of the inspection.
 - f. Ensure operator(s) immediately correct noted faults or properly annotate the uncorrectable fault on the maintenance worksheet.
 - g. Ensure the operator(s) make the required entries on the maintenance worksheet that reflects the completion of before-operation checks. Operator signed and dated in appropriate block if deficiencies are found.
 - h. Ensures that operator adheres to all safety WARNINGS and CAUTIONS applicable to the maintenance procedures being performed.

Performance Steps

3. Ensure the operator(s) are complying with established standards in the vehicle or equipment TM while performing during-operation inspection.
 - a. Monitor and spot-check the operation of the vehicle(s) or equipment being operated under your supervision by soliciting feedback from operators.
 - b. Ensure that organizational maintenance is informed of any changes in vehicle or equipment operational status as a result of during-operation inspection.
 - c. Prohibit any operator from operating any vehicle or equipment if the operation or inspection of this equipment is determined to be unsafe and/or non-mission capable (NMC).
 - d. Ensure the operator(s) make the required entries on the maintenance worksheet that reflects the completion of during-operation checks. Operator signed and dated in appropriate block if deficiencies are found.
 - e. Ensures that operator adheres to all safety WARNINGS and CAUTIONS applicable to the maintenance procedures being performed.
4. Ensure the operator(s) are complying with established standards in the vehicle or equipment TM while performing after-operation inspection.
 - a. Monitor and spot-check the operation of the vehicle(s) or equipment being operated under your supervision by observation and soliciting feedback from operators.
 - b. Ensure that organizational maintenance is informed of any changes in vehicle or equipment operational status as a result of after-operation inspection.
 - c. Prohibit any operator from operating any vehicle or equipment if the operation or inspection of this equipment is determined to be unsafe and/or determined to be non-mission capable (NMC).
 - d. Ensure the operator(s) make the required entries on the maintenance worksheet that reflects the completion of after-operation checks.
 - (1) Operator signed and dated in appropriate block if deficiencies are found.
 - (2) Turns in worksheet to supervisor or maintenance personnel according to local SOP.
 - (3) Today's date entered in appropriate block if no deficiencies are found.
 - (4) Retains for further use until uncorrectable faults are noted.
 - e. Ensures that operator adheres to all safety WARNINGS and CAUTIONS applicable to the maintenance procedures being performed.
5. Ensure that all inspection worksheets are turned in to organizational maintenance in accordance with local maintenance SOP.
 - a. Makes final check of entries made by operator of all maintenance worksheets.
 - b. As supervisor, signs inspection worksheet as necessary.
 - c. Instructs driver to turn in maintenance worksheets as applicable.
6. Ensure that all vehicles and equipment are secured upon completion of maintenance.
 - a. Close and secure all OVM boxes.
 - b. Stow all tools properly in stowage trays/brackets.
 - c. Close and secure all access covers and engine compartment hoods.
 - d. If moving vehicle, remove chocks and ensures that ground guides are available to assist.
 - e. Ensure that all tools and maintenance related materials are secured before movement.
 - f. If vehicle is to remain parked, replace drip pans and chocks in accordance with local SOP.
 - g. Ensure operator(s) recover grounding device(s) prior to movement, as applicable.

Evaluation Preparation: Setup: Soldiers to supervise, either DA Form 2404 or DA Form 5988-E, black ink pen, applicable -10 series TM, hearing protection, vehicles, trailers or equipment to perform the maintenance on, local maintenance SOP, and any other tools (OVM, BII, and AAL) or cleaning items needed.

Brief Soldier: Ensure that all Soldiers have properly performed preventive maintenance according to the applicable TM by detecting all faults on the equipment and either immediately correcting detected faults or annotating uncorrectable faults on the available forms (DA Form 2404 or DA Form 5988-E), and by notifying the supervisor, as required. Ensure the proper use of tools and all safety precautions were adhered to.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Ensured that Soldier(s) were prepared to begin preventive maintenance inspection.	—	—
2. Ensured the operator(s) were complying with established standards in the vehicle or equipment TM while performing before-operation checks.	—	—
3. Ensured the operator(s) were complying with established standards in the vehicle or equipment TM while performing during-operation inspection.	—	—
4. Ensured the operator(s) were complying with established standards in the vehicle or equipment TM while performing after-operation inspection.	—	—
5. Ensured that all inspection worksheets were turned in to organizational maintenance in accordance with local maintenance SOP.	—	—
6. Ensured that all vehicles and equipment were secured upon completion of maintenance.	—	—

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.

References

Required

DA FORM 5987-E
DA FORM 5988-E
DA PAM 750-8
FM 21-305
FM 55-30

Related

DA FORM 2404
DA FORM 2408-14
TC 43-35

Subject Area 4: Motor Vehicle Operations

Supervise Operation of Vehicle-Mounted Crane**551-88M-3340**

Conditions: Given Soldiers to supervise, vehicle-mounted crane, basic issue items (BII), load to lift, hearing protection, and flat surface to operate.

Standards: Your supervision will result in a successful operation of the vehicle-mounted crane to transfer a load to or from the vehicle to the ground or another vehicle. Operation is conducted without injury to personnel or damage to equipment.

Performance Steps

1. Supervise starting procedures.
 - a. Ensure that operator is wearing hearing protection (as applicable).
 - b. Ensure the vehicle operator adheres to all procedural steps listed in the appropriate vehicle technical manual (TM) for engine starting.
 - c. Ensure the vehicle operator adheres to all SAFETY and WARNING statements in the vehicle TM for this procedure.
2. Supervise preparation of crane for use.
 - a. Ensure that operator is wearing hearing protection (as applicable).
 - b. Ensure that operator adheres to all steps listing in the TM for this procedure.
 - c. Ensure that the operator has chocked the vehicle wheels prior to operation.
 - d. Ensure that load to be lifted is positioned and prepared and does not exceed weight limitations of the crane.
 - (1) For M977/M985 vehicles, refer to TM 9-2320-279-10-1.
 - (2) For M1074 vehicle, refer to TM 9-2320-364-10.
 - (3) For M1078 (light medium tactical vehicle [LMTV]) vehicles, refer to TM 9-2320-365-10.
 - (4) For M1083 (medium tactical vehicle [MTV]) vehicles, refer to TM 9-2320-366-10-1.
 - e. Never allow personnel to stand under a suspended load.
3. Supervise the operation of the crane.
 - a. Ensure operator follows visual hand and arm signals.
 - b. Ensure that crane-lifting hook is properly connected to the load being lifted.
 - c. Ensure that operator maintains control of crane and load during movement.
 - d. Ensure that operator places load as directed.
 - e. Never allow personnel to stand under a suspended load.
4. Supervise stowage of crane.
 - a. Ensure that operator completes all steps outlined in the applicable vehicle TM.
 - b. Ensure that operator adheres to all WARNING and CAUTION statements in the vehicle TM.
 - c. Ensure that operator follows all visual hand and arm signals.

Evaluation Preparation: Setup: Give the Soldier any one of the following vehicles: M977 Heavy Expanded Mobility Tactical Truck (HEMTT) with crane; M1074 PLS truck w/crane; M1078 2.5-ton cargo truck with crane; or M1083 5-ton cargo truck with crane.

Brief Soldier: Tell the Soldier he/she is to supervise the operation of the crane according to each performance step/applicable TM without damaging the equipment or physical surroundings and without injuring personnel.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Supervised starting procedures.	_____	_____
a. Ensure that operator is wearing hearing protection (as applicable).		
b. Ensured the vehicle operator adheres to all procedural steps listed in the appropriate vehicle TM for engine starting (as appropriate).		
2. Supervised preparation of crane for use.	_____	_____
a. Ensure that operator is wearing hearing protection (as applicable).		
b. Ensured that operator adheres to all steps listing in the TM for this procedure.		
c. Ensured that load to be lifted is positioned and prepared and does not exceed limitations of the crane.		
(1) For M977/M985 vehicles, refer to TM 9-2320-279-10-1.		
(2) For M1074 vehicle, refer to TM 9-2320-364-10.		
(3) For M1078 (LMTV) vehicles, refer to TM 9-2320-365-10.		
(4) For M1083 (MTV) vehicles, refer to TM 9-2320-366-10-1.		
d. Ensured the vehicle operator adheres to all SAFETY and WARNING statements in the vehicle TM for this procedure.		
3. Supervised operation of the crane.	_____	_____
a. Ensured operator follows visual hand and arm signals.		
b. Ensured that crane hook is properly connected to the load being lifted.		
c. Ensured that operator maintains control of crane and load during movement.		
d. Ensured that operator places load as directed.		
4. Supervised stowage of crane.	_____	_____
a. Ensured that operator completes all steps outlined in the applicable vehicle TM.		
b. Ensured that operator adhered to all WARNING and CAUTION statements in the vehicle TM.		
c. Ensured that operator followed all visual hand and arm signals.		

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.

References

Required

FM 21-60
 TM 9-2320-279-10-1
 TM 9-2320-364-10
 TM 9-2320-365-10
 TM 9-2320-366-10-1

Related

TM 9-2320-366-10-2

Operate the Movement Tracking System Control Station

551-88M-3600

Conditions: As a Movement Tracking System (MTS) Control Station operator, given an installed and fully operational MTS Control Station, you will perform control station functions on the MTS.

Standards: You have operated the MTS Control Station either by direct input or by supervising the operator in your section. You used the MTS functions to create and modify groups, promote and demote mobile units to control station status and used the messaging capabilities to direct/redirect vehicle movement in support of your unit's ongoing mission.

Performance Steps

1. Read Messages

NOTE: When the incoming message queue indicator in status block two (2) contains unread messages, the bottom will turn YELLOW until all messages are read. If the bottom bars turn RED, a distress signal has been sent out by another unit and is in the message queue. MTS Messenger window must be ACTIVE - Dark Blue background on title bar.

- a. Select Read Messages, then Read Current, press F1.
- b. In the Read Messages screen, click the message number you wish to read.
- c. Click the Reply button to return a message to the sender, or Done button to go back to the main window.

2. Send Messages:

- a. To send a message to a control station; press F2, or choose menu option "Send Messages", Then menu option "To CS".
- b. To send a message to a mobile unit, press F3, or choose menu option "Send Messages", then select "?To Mobile".
- c. To send a distress message, press F12 or choose menu option "Send Messages", then select "Send Distress Message".

NOTE: To choose a recipient for your message, choose a unit from Select Unit List. The UNIT STATUS shows if the intended recipient is on-line or off-line. The Unit Location Field will indicate the position of unit.

- d. Type the message into the Message to send box.
- e. Once satisfied that the message is completed, Press the Send button.
 - (1) Press the Cancel button to return to the main window without sending the message.
 - (2) Press the Recall button to load the last sent message into the message box.
 - (3) Press the Clear button to clear the message text field.
- f. Press F6, select Review Sent Messages.
 - (1) Choose the message by using the up and down arrows to move between messages.

Performance Steps

3. Start TracerLink Pro

NOTE: Double-click the Vehicle Server icon located on the desktop to start the TracerLink process.

4. Initiate the map viewer

NOTE: Click on the icon of the loaded map icon shortcut that most closely represents the area of operation.

5. Display Pop-Up Menu

- a. Right Click anywhere on map to display a Pop-Up Menu. The most useful functions of this menu are: Select Vehicle, Normal, Zoom In, Zoom Out, Move, Change Center, Measure and Reset.
- b. Select Vehicle
 - (1) Click on Select Vehicle from the pop-up menu.
 - (2) Move the pointing hand over the vehicle on the map (or group of vehicles) and click on it.

NOTE: The Server Vehicle Kit Control window will open. The Selection tab appears. A vehicle or list of vehicles at that location will be listed. If you do not click on or near a vehicle, the list will be empty. In cases where the icon is not on the map, due to being hidden or off the edge of the map, it is necessary to go to the Assignments tab, open the fleet containing the vehicle, and operate on the vehicle there.

- (3) Click on the vehicle of interest to select it.
 - (a) Time toggles the time and date tag on or off.
 - (b) Trace allows you to draw a line that shows the history of a vehicle's travels. Make sure that Trace has a check mark so as to enable this feature.
- (4) Right click on the vehicle to display a pop-up menu. The most useful functions of this menu are: Center on Vehicle, Display, Clear Trace, Trace Options and State.
 - (a) Center on Vehicle will relocate the map so that the vehicle is at the center of the map.
 - (b) Display has a sub menu: Vehicle, Name, Time and Trace. Vehicle allows you to choose whether to display that unit on the map or not. Name toggles the name tag on or off.
 - (c) Clear Trace will remove from the map the line representing the path that the vehicle has taken. Once removed, it cannot be restored.
 - (d) Trace Options allows you to choose the color, type and width of the line for the path being traced for the specific vehicle.
 - (e) State has one sub menu: Track. When this option is checked, the map will automatically redraw when the specific vehicle reaches the edge of the map. This will keep the vehicle displayed on the map at all times for the purpose of "tracking" it.

NOTE: This function could be used along with Trace for your own vehicle. This would allow you to follow yourself on the map and if necessary, follow the same path back to the point of origin.

- c. Normal will return your pointer to a standard pointer.

Performance Steps

- d. Zoom In, Zoom Out: Zooming in provides more detail for a specific area, while zooming out is a way to show less detail, but more geographic area. Click on the map at the point you wish to become the center of map. The map will zoom with the point clicked becoming the new center of the map.

NOTE: While zooming in or out, the user can click the mouse several times and the software will skip the intermediate redraws. So instead of clicking, waiting, clicking, and waiting, just click several times and wait once.

- e. When Move is selected, the cursor becomes a hand. Click on the map and hold down the left mouse button, then drag the map to the desired position. When you release the mouse, the map will redraw in the new position.
 - f. When Change Center is selected simply click on the map and the map will move with the point clicked becoming the new center of the map.
 - g. When Measure is selected, straight-line distances can be measured on a map. Click and drag the cursor from point A to point B on the map. Before releasing the mouse button, look at the scale display at the bottom of the map window. It displays the distance in kilometers, nautical miles, or statute miles. Once you release the mouse, the distance measurement will disappear. To change the Units of Measure Right click on the map and select Units. Select whether you want the map in kilometers, nautical, or statute miles.
 - h. Select Reset to return the map to the view seen at startup.
6. Review vehicle groups.
 - a. Select Review Groups from the Options Menu of MTS Messenger.
 - b. Select a group from the Select Control Group. The vehicles assigned within the selected group will be displayed in the Vehicles in Group box .
 - c. Modify Groups.
 - (1) Select Modify Groups from the MTS Control Station Messenger menu.
 - (2) Select the control group to be modified.
 - (3) Select vehicles and press the left or right arrow symbol to add or remove vehicles from the group. Press the Shift and Ctrl together to select multiple vehicles.
 - d. Add a new group

NOTE: Select Add New Group from the MTS Messenger control station menu. The new group may add new MTS units. Mobile units will be removed from their existing group and added to the new group, while control stations will be added to the new group and remain in their existing group. This allows the control station operator, System Administrator, or CSSAMO the ability to customize control groups to suit the mission.

Performance Steps

7. Promote Mobile to CS

NOTE: Under certain situations, a mobile unit may need promotion to control station status.

- a. Select Control Station, Promote Mobile to CS on the MTS Messenger menu bar.
- b. Select a control group.
- c. Identify and select the unit within the control group needing promotion and press Promote Mobile.
- d. A window will appear confirming the mobile unit's promotion to a control station. The mobile unit will receive notification of its new status in about five minutes.

NOTE: If a user attempts to promote a unit already promoted, or, if a unit demoted to mobile unit status while choosing what unit to promote will receive a message indicating the attempt failed.

8. Demote CS to Mobile

- a. Select Control Station, Demote CS to Mobile on the MTS Messenger menu bar.
- b. Select a control group. Identify and select the unit within the control group that should be demoted and press Demote CS.

NOTE: A control station can NOT be demoted if they belong to more than one Group. Before they can be demoted they must be removed from all but one group. The Modify Control on allows an Administrator to remove the unit from extra groups.

- c. A window will appear showing status of demotion.

9. Release Bumper Number

- a. Select Release Bumper Number on the Control Station menu.
- b. Select the bumper number to release.
- c. Press the Cancel button to exit the dialog.
- d. Press the Release button.

Evaluation Preparation: Setup: In a tactical setting, provide a complete, installed, and operational MTS Control Station and established MTS Mobile Units with operators, and mission information to relay to mobile unit(s).

Brief Soldier: Use the MTS Control Station to conduct communications with MTS Mobile Units in your network, create and modify groups, promote and demote mobile units to control station status.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Read messages.	—	—
a. Selected read messages menu then Read Current.		
b. Clicked message to read.		
c. Clicked the Reply button to return a message to the sender or "Done" to go back to the main window.		
2. Sent messages.	—	—
a. Sent message to Control Station.		
(1) Selected the Send Messages then option To CS or pressed F2		
(2) Selected the Send Messages then option To Mobile or pressed F3		
(3) Selected the Send Messages then option Send Distress Message or pressed F12		
(4) Chose a recipient for the message from Select Unit List.		
(5) Typed message into Message to Send box		
(6) Pressed the Send button. Go to Read Messages - Review Sent Messages to see if the recipient received the message.		
(7) Pressed the Cancel button to return to the main window without sending.		
(8) Pressed the Recall button to load the last sent message into the Message Box.		
(9) Pressed Clear button to clear message text field.		
(10) Pressed F6 to review sent message		
3. Started TracerLink Pro.	—	—
a. Double-clicked on the Vehicle Server Icon to start TracerLink Pro		
4. Initiated Map Viewer	—	—
a. Clicked on Icon representing area of operation		
5. Displayed Pop-Up Menu	—	—
a. Right clicked anywhere on map to display Pop-Up menu		
b. Selected a vehicle by clicking on vehicle or group of vehicles to start Server Vehicle Kit Control		
(1) Clicked on vehicle of interest		
(2) Toggled time and date tag on and off		
(3) Traced vehicle's travels		
(4) Right clicked on vehicle to show vehicle Pop-Up menu		
c. Zoomed in and out by clicking on map		
d. Moved map by clicking and dragging		
e. Changed center off map		
f. Measured a distance on map		
g. Reset map to original view		

Performance Measures	<u>GO</u>	<u>NO-GO</u>
6. Reviewed vehicle groups.	_____	_____
a. Selected Review Groups from the Options Menu.		
b. Selected a group from the Select Control Group.		
c. Modified Groups.		
(1) Selected Modify Groups from Control Station menu.		
(2) Selected the control group to be modified.		
(3) Added or removed vehicles		
d. Added a new group		
(1) Selected Add a New Group from Control Station Menu		
(2) Customized group to suit mission		
7. Promoted Mobile to CS	_____	_____
a. Selected Control Station, Promote Mobile to CS from MTS Messenger menu		
b. Selected a control group		
c. Identified and selected the unit needing promotion		
8. Demoted CS to Mobile	_____	_____
a. Selected Control Station, Demote CS to Mobile on MTS Messenger Menu		
b. Selected a control group and unit within that group to be demoted.		
c. Pressed Demote CS		
9. Released a Bumper Number	_____	_____
a. Selected Release Bumper Number on CS Menu		
b. Selected Bumper Number to Release		
c. Pressed Cancel to exit dialog box		
d. Pressed Release		

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.

References

Required

MTS CS HANDBOOK
MTS PLUS EUM REV B

Related

Subject Area 7: Motor Transport Supervision

Supervise Personnel Performing Vehicle Hasty/Self-Vehicle Recovery
551-88M-3338

Conditions: Given a mired/disabled vehicle with/without a winch, tow chain, tow bar, rope, timber, steel beam, tarpaulin, basic issue items (BII), additional authorization list (AAL), hearing protection, and personnel to supervise.

Standards: Your supervision results in the successful recovery of the mired vehicle. No injury to personnel or further damage to equipment is incurred.

Performance Steps

1. Supervise self-recovery operation using the Central Tire Inflation System (CTIS).
 - a. Ensure adherence to applicable steps from technical manual (TM).
 - (1) Self-recover the M939 series vehicle (refer to TM 9-2320-272-10).
 - (2) Self-recover the M1074/1075 series vehicle (refer to TM 9-2320-364-10).
 - (3) Self-recover the M1078 series vehicle (refer to TM 9-2320-365-10).
 - (4) Self-recover the M1083 series vehicle (refer to TM 9-2320-366-10-1).
2. Supervise use of manpower to recover vehicle (without winch).
 - a. Instruct personnel to locate a length of timber or similar material about 8 feet long and with a diameter that personnel can handle.
 - b. Instruct personnel to place a suitable fulcrum (a log or rock that will not move when pressure is applied) near the point of lift.
 - c. Instruct personnel to rig the lever under the bumper for the first lift.
 - d. Instruct personnel to block the lift when they have gained all the lift they can.
 - e. Instruct personnel to rig for a second lift, if possible, with the point of lever under the axle.
 - f. Instruct personnel to repeat this procedure until the vehicle can be backed off without too much trouble.
3. Supervise use of the dual-wheel operation to recover the vehicle (without winch).
 - a. Ensure that two lengths of a strong rope are available for use.
 - b. Determine if a natural anchor is available (a tree or large boulder). The anchor used must be as close as possible in line with direction of pull.
 - c. Supervise personnel in the construction of an anchor if no natural anchor is available. It should be a type of anchor that would be suited to the surrounding terrain and available materials. This may include any one of the following types.
 - (1) Deadman log anchor.
 - (2) Normal or reinforced picket holdfast.
 - (3) Sand parachute.
 - d. Instruct the following actions for recovery operation.
 - (1) Fasten one end of the rope to a rear wheel hub and the other to an anchor.
 - (2) Place the rope between the duals and through one of the holes on the wheel disk.
 - (3) Tie the rope around the hub where it will be clear of the valve stem.
 - (4) Place the transmission gearshift lever in reverse to wind the rope.
 - (5) Once free, unwind and remove the rope from duals.

Performance Steps

4. Ensure self-recovery of vehicle (with winch).
 - a. Ensure the vehicle winch cable is securely attached to anchor or other vehicle.
 - b. Self-recover the M998 series vehicle (refer to TM 9-2320-280-10).
 - c. Self-recover the M809 series vehicle (refer to TM 9-2320-260-10).
 - d. Self-recover the M939 series vehicle (refer to TM 9-2320-272-10).
 - e. Self-recover the M977 series vehicle (refer to TM 9-2320-279-10-1).
 - f. Self-recover the M1074/1075 series vehicle (refer to TM 9-2320-364-10).
 - g. Self-recover the M1078/1083 series vehicle (refer to TM 9-2320-365-10 and 366-10-1).

Evaluation Preparation: Setup: Provide the Soldier with a mired or disabled vehicle to be recovered. Provide additional personnel to supervise or for assistance as needed. Vehicle should not be capable of moving under its own power. Provide for the Soldier a like vehicle for recovery with crew/operators.

Brief Soldier: Inform Soldier that his/her direct supervision and guidance must result in a successful recovery of mired/disabled vehicle that is capable of moving under its own power (mired vehicle) without injury to personnel or further damage to equipment.

Performance Measures**GO** **NO-GO**

- | | | |
|---|----|----|
| 1. Supervised self-recovery operation using the Central Tire Inflation System (CTIS). | —— | —— |
| a. Ensure the adherence to steps from the applicable TM. | | |
| (1) Self-recover the M939 series vehicle (refer to TM 9-2320-272-10). | | |
| (2) Self-recover the M1074/1075 series vehicle (refer to TM 9-2320-364-10). | | |
| (3) Self-recover the M1078 series vehicle (refer to TM 9-2320-365-10). | | |
| (4) Self-recover the M1083 series vehicle (refer to TM 9-2320-366-10-1). | | |
| 2. Supervised use of manpower to recover vehicle (without winch). | —— | —— |
| a. Instructed personnel to locate a length of timber or similar material about 8 feet long and with a diameter that available personnel can handle. | | |
| b. Instructed personnel to place a suitable fulcrum (a log or rock that will not move when pressure is applied) near the point of lift. | | |
| c. Instructed personnel to rig the lever under the bumper for the first lift. | | |
| d. Instructed personnel to block the lift when they have gained all the lift they can. | | |
| e. Instructed personnel to rig for a second lift with the point of lever under the axle, if possible. | | |
| f. Instructed personnel to repeat this procedure until the vehicle can be backed off without too much trouble. | | |

Performance Measures	<u>GO</u>	<u>NO-GO</u>
3. Supervised use of the dual-wheel operation to recover the vehicle (without winch). <ul style="list-style-type: none"> a. Ensured that two lengths of a strong rope are available for use. b. Determined if a natural anchor is available (a tree or large boulder). The anchor used must be as close as possible in line with direction of pull. c. If no natural anchor is available, instruct and supervise personnel in the construction of an anchor. It should be a type of anchor that would be suited to the surrounding terrain and available materials. This may include any one of the following types. <ul style="list-style-type: none"> (1) Deadman log anchor. (2) Normal or Reinforced Picket Holdfast. (3) Sand Parachute. 	—	—
4. Ensured self-recovery of vehicle (with winch). <ul style="list-style-type: none"> a. Ensure the vehicle winch cable is securely attached to anchor or vehicle. b. Self-recover the M998 series vehicle (refer to TM 9-2320-280-10). c. Self-recover the M809 series vehicle (refer to TM 9-2320-260-10). d. Self-recover the M939 series vehicle (refer to TM 9-2320-272-10). e. Self-recover the M977 series vehicle (refer to TM 9-2320-279-10-1). f. Self-recover the M1074/1075 series vehicle (refer to TM 9-2320-364-10). g. Self-recover the M1078/1083 series vehicle (refer to TM 9-2320-365-10 and 366-10-1). 	—	—

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.

References

Required	Related
FM 4-30.31	
FM 21-305	
TM 9-243	
TM 9-2320-260-10	
TM 9-2320-272-10	
TM 9-2320-279-10-1	
TM 9-2320-279-10-2	
TM 9-2320-280-10	
TM 9-2320-364-10	
TM 9-2320-365-10	
TM 9-2320-366-10-1	

Supervise Personnel Loading/Unloading Equipment/Cargo Onto/From Vehicle and Semitrailer 551-88M-3341

Conditions: Given either a cargo vehicle or a tractor with semitrailer combination with before-operation preventive maintenance checks and services (PMCS) completed, personnel to supervise, hazardous (ammunition) or non-hazardous load to be loaded or unloaded, tiedown materials, blocking and bracing materials, hearing protection, work gloves, and assistance as needed from additional personnel.

Standards: Your direct supervision will result in the successful loading/unloading of the vehicle/trailer/semitrailer. If loading, the load is securely tied down to the vehicle and blocked and braced properly as needed. The load is loaded in such a manner as to expedite unloading at destination. If unloading, the unloading operation is conducted in a safe manner using all available equipment and personnel. All required forms for accountability and safety are completed. All safety restrictions for hazardous cargo are adhered to. The operation is conducted successfully without injury to personnel or damage to equipment.

Performance Steps

1. Supervise loading operations.
 - a. Cargo vehicle.
 - (1) Ensure that the vehicle to be loaded is chocked and hand brake set.
 - (2) Prepare cargo area for loading.
 - (a) Lower vehicle tailgate (as applicable).
 - (b) Remove canvas and bows as necessary.
 - (c) Ensure cargo area is cleaned out and ready to load cargo.
 - (d) Ensure sufficient tiedown materials are on hand to secure cargo.
 - (e) Ensure sufficient blocking and bracing materials are on hand as needed.
 - (3) When loading ammunition, ensure the following is completed prior to loading operations.
 - (a) Ensure all operator PMCS is completed and deficiencies are corrected or parts replaced.
 - (b) Ensure DD Form 626 (Motor Vehicle Inspection (Transporting Hazardous Materials)), is completed according to instructions included with form and all vehicle deficiencies are corrected.
 - (c) Ensure DD Form 836 (Dangerous Goods Shipping Paper/Declaration and Emergency Response Information for Hazardous Materials Transported by Government Vehicles) is completed and instructions are included in case of fire, breakdown, accident, general precautions and the form is signed.
 - (d) Ensure a NO SMOKING rule of 50 feet and ensure open flames are not used with 100 feet of loading area.
 - (e) Ensure proper placarding is attached to all four sides of vehicle that reflects the ammunition load. (Unless told otherwise by commander in a threat environment)
 - (f) Ensure tops of packages containing explosives are marked "THIS SIDE UP" and so loaded.
 - (g) Ensure no ammunition is loaded where vehicle exhaust from running vehicles is present. Ensure area is adequately ventilated to prevent buildup of fumes or heat.
 - (h) Ensure that detonating caps are loaded on a separate vehicle from and explosive load.

NOTE: This does not prevent carrying complete rounds of artillery ammunition, including fuses and primer in the same vehicle.

Performance Steps

- (4) Ensure heavier cargo items are placed on bottom and lighter items are on top.
- (5) Ensure that all heavy cargo is distributed as evenly as possible over the bed to maintain a safe weight distribution.
- (6) Keep the load as low as possible. A high load may make the vehicle difficult to control and may cause it to overturn.
- (7) Fill the cargo space to the maximum weight allowable.
- (8) For multiple-stop loads, separate cargo by destination for easy off-loading.
- (9) Ensure that drums and barrels are loaded either upright or on their sides. If blocked on their sides, their length should be parallel to the sides of the truck.
- (10) If MHE is employed to load vehicle, ensure that all operational guidelines to include SAFETY is adhered to according to the operator's technical manual (TM).
- (11) Ensure that once loading is complete, all tiedowns are secure and blocking and bracing has been correctly emplaced. Refer to items listed below.
 - (a) Block and brace cargo with lumber or other materials to keep the load from shifting or falling off the vehicle while en route.
 - (b) Block crates, boxes, and barrels to keep them from shifting en route.
 - (c) Use crib blocking whenever possible. It need not be nailed to the floor or sides if placed tightly against the cargo to reduce damage to the floor and sideboards of the vehicle.
 - (d) If a gap exists between pipes or lumber and the end of the trailer, block the load with a gate constructed with 4X4 boards to prevent it from slipping.
 - (e) Use lumber for blocking that is free of knots and strong enough to provide a rigid and stable support for the load en route.
 - (f) Use available tiedown chains or wire rope and turnbuckles as needed for tiedown of vehicles, container expresses (CONEX), or military vans (MILVANS) that are not connected directly to the transporter. Tiedown the load with available tiedown materials.
 - (g) Use available tiedown straps for general cargo or large component items.
- (12) During loading, ensure that no person is allowed to stand or walk underneath a suspended load.
- (13) If load lashing is needed, ensure it is done correctly and securely.
- (14) Re-install canvas and bows (if removed for loading).
- (15) Ensure all required load documentation is present and completed correctly. This may include:
 - (a) DD Form 1384 (Transportation Control and Movement Document).
 - (b) DD Form 626.
 - (c) DD Form 836.
 - (d) DA Form 2062 (Hand Receipt/Annex Number).

NOTE: Ensure operator possesses the correct form(s) to support the load.

- (16) Recheck entire load to ensure nothing is overlooked prior to allowing vehicle to move.

b. Trailer/semitrailer.

- (1) Ensure that the trailer/semitrailer to be loaded is chocked.
- (2) Follow steps a(2) thru a(15) above.

Performance Steps

2. Supervise unloading operations.
 - a. Cargo vehicle or trailer/semitrailer.
 - (1) Ensure that vehicle to be unloaded is chocked and brakes set.
 - (2) Prepare cargo area for unloading.
 - (a) Lower vehicle tailgate (as applicable).
 - (b) Remove canvas and bows as necessary.
 - (c) Unlash and remove tarpaulin, if installed.
 - (d) Lower side-panels as needed.
 - (e) Remove sideboards as needed.

WARNING

ALWAYS BE CAUTIOUS WHEN REMOVING TIEDOWN MATERIALS. LOAD MAY HAVE SHIFTED DURING MOVEMENT AND COULD FALL WHEN TENSION IS RELEASED. FAILURE TO COMPLY MAY RESULT IN INJURY TO PERSONNEL AND/OR DAMAGE TO LOAD.

- b. Remove tiedowns securing load. If partial delivery, ensure only tiedowns securing that portion of load are removed. Check remainder of load for security.
3. Ensure MHE operator follows designated hand and arm signals for any movement.
4. Position and emplace MHE lifting device to remove load or portion of load.
5. Attach guide ropes as needed to control load during removal from vehicle.

WARNINGS

WHEN CUTTING BANDING ON PALLETS, BE CAUTIOUS OF HEAVY ITEMS FALLING FREE FROM PALLET. ENSURE ALL ITEMS ARE RESTRAINED TO PREVENT FALLING. FAILURE TO COMPLY MAY RESULT IN INJURY TO PERSONNEL OR DAMAGE TO LOAD.

WHEN REMOVING BANDING MATERIALS THAT ARE HOLDING A PALLET TOGETHER THE PRESSURE ON THE BANDS MAY CAUSE THE BAND TO SNAP BACK. ENSURE PERSONNEL ARE CLEAR OF BANDING DURING CUTTING PROCESS. FAILURE TO COMPLY MAY RESULT IN INJURY TO PERSONNEL.

6. Remove banding if load is palletized and pallets must be broken for a partial unload. Watch for falling pallet contents.
 7. Secure any remaining items, once unloading has been completed, for further transport.

Performance Steps

8. Ensure transfer of custody is accomplished and all records are annotated as needed and all items are accounted for prior to departure.
9. Secure MHE and stow or reposition to allow cargo vehicle to move.
10. Recover and stow all slings, guide ropes, and blocking materials as necessary prior to departure.
11. Recover wheel chocks from vehicle and semitrailer prior to movement.

Evaluation Preparation: Setup: Provide for the Soldier a load, tactical cargo vehicle, MHE, Soldiers to supervise, level area, and mission information.

Brief Soldier: You are required to supervise the safe operation of loading and unloading cargo to and from a vehicle or semitrailer.

Performance Measures

GO **NO-GO**

1. Supervised loading operations.
 - a. Cargo vehicle/trailer/semitrailer.
 - (1) Ensured that the vehicle to be loaded is chocked and brakes set.
 - (2) Prepared cargo area for loading.
 - (a) Lowered tailgate (as applicable).
 - (b) Removed canvas and bows as necessary.
 - (c) Ensured cargo area is cleaned out and ready.
 - (d) Ensured sufficient tiedown materials are on hand.
 - (e) Ensured sufficient blocking and bracing are on hand, if needed.
 - (3) When loading ammunition, ensured the following is completed prior to loading operations.
 - (a) All operator PMCS was completed and deficiencies are corrected or parts replaced.
 - (b) DD Form 626, Motor Vehicle Inspection, was completed according to instructions included with form and all vehicle deficiencies are corrected.
 - (c) DD Form 836, Hazardous Good Shipping Declaration, (use April 2006 version) was completed and instructions were included in case of fire, breakdown, accident, general precautions and the form is signed.
 - (d) NO SMOKING rule of 50 feet and open flames, are not used with 100 feet of loading area.
 - (e) Proper placarding is attached to all four sides of vehicle that reflects the ammunition load (unless told otherwise by commander in a threat environment).
 - (f) Tops of packages containing explosives are marked "THIS SIDE UP" and so loaded.

Performance Measures**GO NO-GO**

- (g) No ammunition is loaded where vehicle exhaust from running vehicles is present. Ensure area is adequately ventilated to prevent buildup of fumes or heat.
- (h) Detonating caps are loaded on a separate vehicle from and explosive load.

NOTE: This does not prevent carrying complete rounds of artillery ammunition, including fuses and primer in the same vehicle.

- (4) Ensured heavier cargo items are placed on bottom and lighter items are on top.
- (5) Ensured that all heavy cargo items are distributed as evenly as possible over the bed to maintain a safe weight distribution.
- (6) Kept the load as low as possible. A high load may make the vehicle difficult to control and may cause it to overturn.
- (7) Filled the cargo space to the maximum weight allowable.
- (8) For multiple-stop loads, separated cargo by destination for easy off-loading.
- (9) Ensured that drums and barrels are loaded either upright or on their sides. If blocked on their sides, their length should be parallel to the sides of the truck.
- (10) If MHE is employed to load vehicle, ensured that all operational guidelines to include SAFETY are adhered to according to the operator's manual.
- (11) Ensured that once loading is complete, all tiedowns are secure and blocking and bracing has been correctly emplaced. Refer to items listed below. If shipper is other than owning unit, ensure that all items below are checked by driver prior to departing.
 - (a) Blocked and braced the load with lumber or other materials to keep the load from shifting or falling off the vehicle while en route (as applicable).
 - (b) Blocked crates, boxes, and barrels to keep them from shifting en route.
 - (c) Used crib blocking whenever possible. It need not be nailed to the floor or sides if placed tightly against the cargo to reduce damage to the floor and sideboards.
 - (d) If a gap exists between pipes or lumber and the end of the trailer, blocked the load with a gate constructed with 4X4 boards to prevent it from slipping.
 - (e) Ensured that all lumber used for blocking and bracing must be free of knots and strong enough to provide a rigid and stable support for the load en route.
 - (f) Tiedown the load with the available tiedown materials.
- (12) Rechecked entire load to ensure that nothing is overlooked prior to allowing vehicle to move.

Performance Measures**GO** **NO-GO**

(13) During loading, ensured that no person is allowed to stand or walk under a suspended load.		
(14) Ensured load is lashed securely as needed.		
(15) Ensured all load documentation is completed and accurate. All required hand receipts or DD Form 1384 (TCMD) will accompany load as applicable.		
2. Supervised unloading operations.	—	—
a. Cargo vehicle or trailer/semitrailer.		
(1) Ensured that vehicle/trailer/semitrailer to be unloaded is chocked and brakes set.		
(2) Prepared cargo area for unloading.		
(a) Lowered tailgate of truck or trailer.		
(b) Removed canvas and bows as necessary.		
(c) Unlashed and removed tarpaulin, if installed.		
(d) Lowered side-panels as needed.		
(e) Removed sideboards as needed.		
(f) Removed tiedowns securing load. If partial delivery, ensure only tiedowns securing that portion of the load are removed. Check remainder of load for security.		
3. Ensured MHE operator follows designated hand and arm signals for any movement.	—	—
4. Positioned and emplaced MHE lifting devices to remove load or portion of load.	—	—
5. Attached guide ropes as needed, if unloading large, palletized items or heavy equipment, to control load during removal from vehicle.	—	—
6. Removed banding if load is palletized and pallets must be broken for a partial unload. Watch for falling pallet contents.	—	—
7. Secured any remaining items, once unloading has been completed, for further transport.	—	—
8. Ensured transfer of custody was accomplished and all records were annotated as needed and all items were accounted for prior to departure.	—	—
9. Secured MHE and stowed or repositioned to allow cargo vehicle to move.	—	—
10. Recovered and stowed all slings, guide ropes, and blocking and bracing materials prior to departure.	—	—
11. Recovered wheel chocks from vehicle and semitrailer prior to movement.	—	—

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.

References**Required**

DA FORM 2062
DD FORM 626
DD FORM 836
DD FORM 1384
FM 21-60
FM 21-305
FM 55-30
SDDCTEA PAM 55-20
TM 9-2320-260-10
TM 9-2320-272-10
TM 9-2320-279-10-1
TM 9-2320-364-10
TM 9-2320-365-10
TM 9-2320-366-10-1

Related

Supervise Loading of Able/Disabled Tracked/Wheeled Vehicles Onto a Heavy Equipment Transporter (HET)

551-88M-3345

Conditions: Given an able/disabled tracked/wheeled vehicle for loading onto HET, HET basic issue items (BII), a coupled HET with pre-operational maintenance checks performed, assistance from other crew members, and level ground to conduct loading operations.

Special Conditions: Two-person operation. Assistance from another crew member is required.

Standards: You will supervise the completion of the loading operation of an able/disabled tracked/wheeled vehicle, position vehicle properly, and secure vehicle to prevent movement during transport. Ensure that all procedures are accomplished safely without injury to personnel, damage to HET, or vehicle payload.

Performance Steps

1. Supervise preparation of Heavy Equipment Transporter System (HETS) for loading operation.
 - a. Ensure operator positions HET on level ground or within 10 percent offset or 10 degrees difference between tractor and semitrailer. Follow hand and arm signals from ground guide.
 - b. Ensure operator chocks vehicle and semitrailer wheels as needed.
 - c. Ensure operator adheres to all WARNING and CAUTION statements listed in technical reference for this operation.
2. Supervise loading able tracked/wheeled vehicle payload.
 - a. Ensure operator refers to TM 9-2330-381-14, paragraph 2-26, page 2-91.
 - b. Ensure operator adheres to all WARNING and CAUTION statements in the reference manual for this operation.
3. Supervise loading disabled tracked/wheeled vehicle payload.
 - a. Ensure operator refers to TM 9-2330-381-14, paragraph 2-27, page 2-122 for detailed procedures in unloading vehicle payload.
 - b. Ensure operator adheres to all WARNING and CAUTION statements in the reference manual for this operation.

Evaluation Preparation: Setup: Provide the Soldier with a coupled operational HET, able/disabled payload to load, level ground, assistance from another crew member, hearing protection, BII for semitrailer and truck.

Brief Soldier: Instruct the Soldier that the payload vehicle must be loaded onto the M1000 Semitrailer, positioned properly, and secured for movement without injury to personnel or damage to payload vehicle or HETS.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Supervised preparation of Heavy Equipment Transporter System (HETS) for loading operation. <ul style="list-style-type: none">a. Ensured operator positions HET on level ground or within 10 percent offset or 10 degrees difference between tractor and semitrailer. Followed hand and arm signals from ground guide.b. Ensured operator chocks vehicle and semitrailer wheels as needed.c. Ensured operator adhered to all WARNING and CAUTION statements listed in technical reference for this operation.	—	—
2. Supervised loading able tracked/wheeled vehicle payload. <ul style="list-style-type: none">a. Ensured operator referred to TM 9-2330-381-14, paragraph 2-26, page 2-91.b. Ensured operator adhered to all WARNING and CAUTION statements in the reference manual for this operation.	—	—
3. Supervised loading disabled tracked/wheeled vehicle payload. <ul style="list-style-type: none">a. Ensured operator referred to TM 9-2330-381-14, paragraph 2-27, page 2-122 for detailed procedures in unloading vehicle payload.b. Ensured operator adhered to all WARNING and CAUTION statements in the reference manual for this operation.	—	—

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.

References

Required

FM 21-60
TM 9-2320-360-10
TM 9-2330-381-14

Related

TC 21-305-9

**Supervise Unloading of Able/Disabled Tracked/Wheeled Vehicles Off a Heavy Equipment
Transporter (HET)**
551-88M-3346

Conditions: As a heavy vehicle operator, given a coupled HET with before-operational maintenance performed, assistance from other crew members, chock blocks, vehicle and semitrailer basic issue items (BII), and an able/disabled tracked or wheeled vehicle payload.

Special Conditions: This task requires at least two persons.

Standards: You will supervise the safe completion of the unloading operation of an able/disabled tracked/wheeled vehicle from your HET semitrailer without injury to personnel, damaging the vehicle payload, semitrailer, or physical surroundings.

Performance Steps

1. Supervise preparation of Heavy Equipment Transporter System (HETS) for unloading operation.
 - a. Ensure operator positions HET on level ground or within 10 percent offset or 10 degrees difference between tractor and semitrailer. Follow hand and arm signals from ground guide.
 - b. Ensure operator chocks vehicle and semitrailer wheels as needed.
 - c. Ensure operator adheres to all WARNING and CAUTION statements listed in technical reference for this operation.
2. Supervise Unloading of able tracked/wheeled vehicle payload from HET.
 - a. Ensure operator refers to TM 9-2330-381-14, paragraph 2-26, page 2-91.
 - b. Ensure operator adheres to all WARNING and CAUTION statements in the reference manual for this operation.
3. Supervise unloading disabled tracked/wheeled vehicle payload from HET.
 - a. Ensure operator refers to TM 9-2330-381-14, paragraph 2-27, page 2-122 for detailed procedures in unloading disabled vehicle payload.
 - b. Ensure operator adheres to all WARNING and CAUTION statements in the reference manual for this operation.

Evaluation Preparation: Setup: Provide for the Soldier a complete, coupled HETS with before-operational maintenance checks performed, payload vehicle loaded on the M1000 semitrailer, BII for truck and semitrailer, and level ground to operate.

Brief Soldier: You are required to unload the payload vehicle according to the system's technical reference manuals from the semitrailer using assistance from other crewman without injury to personnel or damage to equipment.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Supervised preparation HETS for unloading operation. a. Completed all steps referenced in the vehicle and semitrailer technical operator's manual for this operation. b. Adhered to all WARNING and CAUTION statement for this operation.	—	—
2. Supervised correct unloading of able tracked/wheeled vehicle payload from HET. a. Completed all steps referenced in the vehicle and semitrailer technical operator's manual for this operation. b. Adhered to all WARNING and CAUTION statement for this operation.	—	—
3. Supervised correct unloading of disabled tracked/wheeled vehicle payload from HET. a. Completed all steps referenced in the vehicle and semitrailer technical operator's manual for this operation. b. Adhered to all WARNING and CAUTION statement for this operation.	—	—

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.

References**Required**

TM 9-2320-360-10

TM 9-2330-381-14

Related

Subject Area 8: Convoy Execution/Defense

Conduct Mounted Land Navigation**551-88M-3355**

Conditions: Applied to a tactical environment, given dispatched vehicle(s), vehicle operator(s), vehicle navigator(s) (assistant drivers), topographic, and grid maps, and strip map information, plotting protractor, map markers, legend information, route information, and communications equipment.

Special Conditions: The Soldiers receiving the instruction are given the duty as vehicle navigator. The navigator will be the only person making movement decisions within each vehicle involved. Driver will NOT attempt to assist as this action as it seriously increases the possibility of vehicle accident during movement.

NOTE: The focus of this task is to emphasize the motor transport operator's ability to navigate while mounted using various types of maps. In contrast to dismounted land navigation, the mounted navigator and vehicle operator must consider the vehicle's ability to maneuver through varying terrain as a factor of their selection of routes.

NOTE: The duties of a navigator are so important that he/she should not be given any other duties.

Standards: As a result of your instruction, all vehicles will navigate to their destination without becoming disoriented or traveling on unauthorized routes thus endangering the transport mission. The navigator of each vehicle will be able to properly identify, and plot all route and mission essential information on topographic maps or tourist road maps. Strip maps are prepared based on map sheets used for mission and accurately depict applicable route information that successfully contributes to the mission.

Performance Steps

1. Define mounted navigator (assistant driver) duties.
 - a. Assembling Equipment. The navigator must gather all the equipment that will help him/her perform his/her job (maps, pencils, and so forth). He/She must do this before the mission starts.
 - b. Servicing Equipment. It is the navigator's duty to make sure that all the equipment he/she may use or require is working. This may include but is not limited to a compass or a Precision Lightweight GPS Receiver (PLGR).
 - c. Recording Data for Precise Locations. During movement, the navigator must make sure that the correct direction and distance are recorded and followed. Grid coordinates of locations must be recorded and plotted.
 - d. Supply Data to Subordinate Leaders. During movement, any change in direction or distance must be given to the subordinate leaders in sufficient time to allow them to react.
 - e. Maintaining Liaison with Commander. The commander normally selects the route that he/she desires to use. The navigator is responsible for following that route; however, there may be times when the route must be changed during a tactical operation. For this reason, the navigator must maintain constant communication with the commander. The navigator must inform the commander when checkpoints are reached, when a change in direction of movement is required, and how much distance is traveled.

Performance Steps

2. Orient the map.
 - a. First technique.
 - (1) With the map in a horizontal position, take the straightedge on the left side of the compass and place it alongside the north-south grid line with the cover of the compass pointing toward the top of the map. This procedure places the fixed black index line of the compass parallel to north-south grid lines of the map.
 - (2) Keeping the compass aligned as directed above, rotate the map and compass together until the magnetic arrow is below the fixed black index line on the compass. At this time, the map is close to being oriented.
 - (3) Rotate the map and compass in the direction of the declination diagram.
 - (4) If the magnetic north arrow on the map is to the left of the grid north, check the compass reading to see if it equals the grid-magnetic (GM) angle given in the declination diagram.
 - b. Second technique.
 - (1) Determine the direction of the declination diagram and its value from the declination diagram.
 - (2) Using any north-south on the map as a base, draw a magnetic azimuth equal to the GM angle given in the declination diagram with the protractor.
 - (3) If the declination is easterly (right), the drawn line is equal to the value of the GM angle. Then align the straightedge, which is on the left side of the compass, alongside the drawn line on the map. Rotate the map and compass until the magnetic arrow of the compass is below the fixed black index line. The map is now oriented.
 - c. Using terrain association. A map can be oriented by terrain association when a compass is not available or when the user has to make many quick references as he/she moves across country. Using this method requires careful examination of the map and the ground, and the user must know his/her approximate location.
3. Explain the details of a topographic map.

NOTES:

1. This is a map that portrays terrain features in a measurable way (usually through use of contour lines), as well as the horizontal positions of the features represented. The vertical positions, or relief, are normally represented by contour lines on military maps. On maps showing relief, the elevations and contours are measured from a specific vertical datum plane, usually mean sea level.
2. This is the military map that is most commonly used by maneuvering units to navigate. The standard scale is 1:50,000.
 - a. Identify and/or determine topographic symbols such as:
 - (1) The map's legend. It normally contains the symbols used in a particular series or on that specific map sheet. Therefore, the legend should be referred to each time a new map sheet is used. The symbol should reflect as closely as possible what the feature is intended to be.
 - (2) Military symbols are added to give additional significance to the military application at the time the map is used. Refer to FM 1-02 for friendly and enemy unit symbols.
 - b. Identify terrain features on the map.
 - c. Determine grid coordinates using the military grid reference system.
 - d. Determine distance on the map from one point to another.

Performance Steps

4. Explain the details of a road map.

NOTE: These are maps of a region in which the main means of transportation and areas of interest are shown. Some of these maps show secondary networks of roads, historic sites, museums, and beaches in detail. They may contain road and time distance between points. Careful consideration should be exercised about the scale when using these maps.

- a. Scale of the map if different than a topographic map. Determine to the best extent possible what the scale is of the map you are using.
- b. Origin and destination.
- c. Selected routes.
- d. Cities and towns.
- e. Four-lane divided highways, principle highways, and other thruways and roads.
- f. Width and height of bridges and overpasses.
- g. Rest and service areas.
- h. Distance (miles, kilometers) from point of origin to destination.
- i. Map symbols.
- j. Special features on the map.
- k. Alternate route(s).

5. Explain the details of a strip map.

NOTE: A strip map is an unscaled drawing of routes or a march including the critical points along those routes. It may be prepared either as an overlay or as a schematic of the map itself. It is similar to a route overlay but not to scale. The purpose of a strip map is to graphically portray a routes of movement over a distance that may exceed standard military map sheets of that requires multiple map sheets.

- a. Explain the following regarding strip maps.
 - (1) Origin and destination.
 - (2) Start Point (SP) and Release Point (RP) if different from 4a above.
 - (3) Routes and route numbers.
 - (4) Major towns.
 - (5) Major roads and crossroads.
 - (6) Mileage between points.
 - (7) Bivouac, rest, halt and refuel point.
 - (8) Directional arrows.
 - (9) Legend transferred from the map onto the strip map.
 - (10) Alternate route(s).
 - (11) Critical point(s).

Performance Steps

- b. Present the following information concerning characteristics of a strip map:
 - (1) A strip map may be prepared from a route overlay, a route reconnaissance report, or a map reconnaissance. It is drawn on a standard sheet of paper to give the user the necessary information to reach his/her destination.
 - (2) A strip map is generally distributed to squad leaders, convoy commanders, drivers, or route guides and normally shows only one route.
 - (3) A strip map used as an appendix or annex could have many routes on it and could include bypasses for each route.
 - (4) A strip map may indicate a sketch of a march, which may or may not be drawn to scale.

6. Prepare a strip map.

NOTE: Figure 3-39 depicts a Single Route Strip Map. Figure 3-40 depicts a Multiple Route Strip Map.

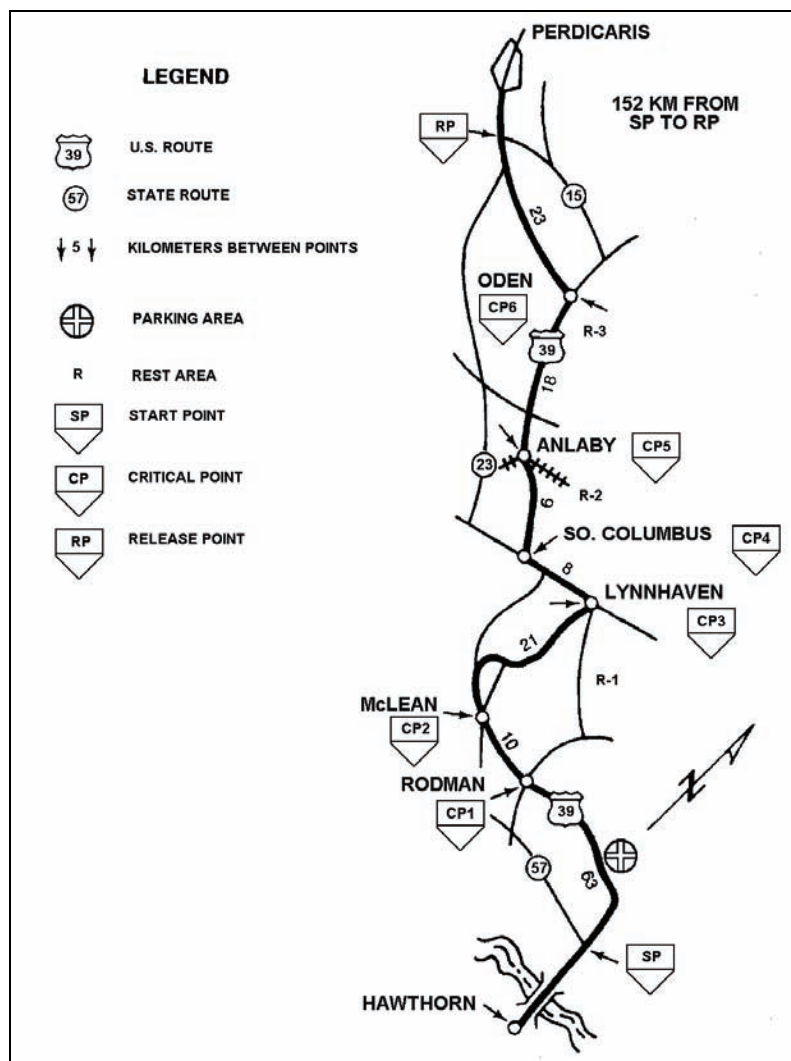


Figure 3-39. Single Route Strip Map

Performance Steps

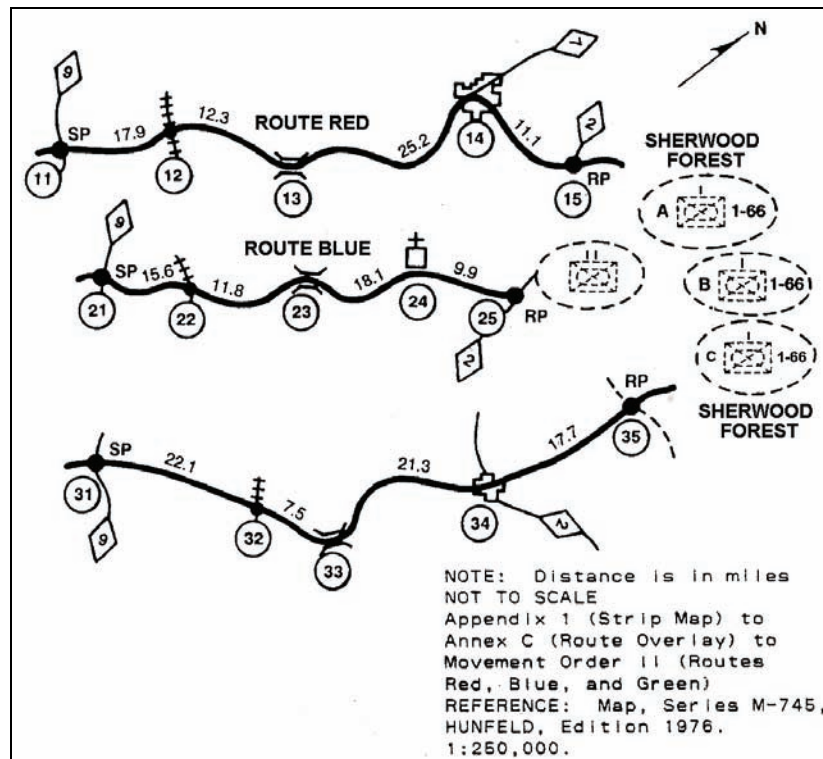


Figure 3-40. Multiple Route Strip Map

- a. Orientation. Place the symbol for grid north on the sketch. Label it with an N to designate the general direction of north. Do not make any other orientation or grid references.
- b. Plot the details.
 - (1) Draw the route of movement.
 - (2) Plot all critical points or areas along a route where movement may occur or where timing is critical. These include SPs, checkpoints, RPs, phase lines, bridges, tunnels, road junctions, city or town intersections where passage could be confusing, and areas or halts for messing, and refueling.
 - (3) Plot the SPs, and RPs. Label them with their abbreviation or number if appropriate.
 - (4) Place the distance between critical points in kilometers or miles (use a measurement that would be applicable based on the movement).
- c. Create the Heading.
 - (1) An example of a title is Appendix 1 (strip map) to Annex C (route overlay) to movement order 11 (Routes Red, Blue, and Green to Sherwood forest).
 - (2) Map references for a strip map are normally the same as for the operation order that the strip map supports.
- d. When a strip map is prepared as an appendix or annex issued separately this is when it is to have wide distribution), then the order must have a heading, and ending, and a classification, as does the overlay.

Performance Steps

- e. Strip maps for general use that are to be distributed to the lowest level will have only the information pertaining to that level (example: squad leader, vehicle commander, or driver).
 - (1) The detail on such a map is the same as for a strip map used as an appendix or annex except no unit symbols or designation are used. If the map is extracted from a strip map with multiple routes, the only route that is included is the one the user needs.
 - (2) Use the title that alludes to the order, but does not mention the order by name, number, or letter. Use the route name or a name that would be applicable for the movement; for example, Route Blue to Sherwood Forest.
 - (3) These maps are not classified. However, caution personnel on the sensitivity of the document. Do not issue the strip map until the last possible moment.

7. Conduct mounted vehicular movement.

NOTE: This performance step is the practical application of navigating along a specified route using one or more of the maps previously covered. Navigation will be accomplished using necessary route and mission information (local SOP) that has been plotted on the map being used by the person(s) receiving this instruction.

- a. Via a road network.
 - (1) In most cases, the motor transport operator will have a route that has been cleared by reconnaissance in order to conduct movement. However, this is not always the case.
 - (2) Determine your exact starting location and that of your destination.
 - (3) Using either of the types of maps previously discussed, instruct your driver to begin movement along the route that has been selected.
 - (4) Unlike dismounted land navigation, mounted navigating requires greater vigilance in determining your progress along the route while monitoring the map. Selected points may pass much faster than anticipated.
 - (5) Compare your location relative to the following:
 - (a) Your directional orientation.
 - (b) The direction and distances to your destination.
 - (c) Other landmarks and features (towns, intersections, lakes, streams, and so forth).
 - (d) Any impassible terrain, the enemy, and danger areas.
 - (e) Both the advantages and disadvantages presented by the terrain between you and your objective.
 - (6) Use terrain features as checkpoints. You will use plotted checkpoints along the route but if there are long distances between points you will want to use terrain features that cross your path that are easily identifiable to check your progress.

NOTE: Always consider the tactical aspects of your movement. Avoid "skylining" if at all possible as your chances of detection are increased. Use the "cliché "expect the unexpected" along your route. Up-to-date intelligence degrades with time.

- (7) Determine distance. Get the total distance to be traveled and the approximate distance between points. Plan to use the vehicle odometer to keep track of distance traveled.

Performance Steps

- b. Via cross-country.
 - (1) Travel over cross-country route may be much more difficult in that there are not always road networks that are plotted on the map. A route that has not been used in long periods of time may be overgrown or washed out. This is where route reconnaissance pays off. Using alternate routes when this occurs will ensure mission success.
 - (2) Vehicle capabilities. When determining a route to be used when mounted, consider the capabilities of the vehicles to be used. Most military vehicles are limited in the degree of slope they can climb and the type of terrain they can negotiate. Swamps, thickly wooded areas, or deep streams may present no problems to dismounted Soldiers, but the same terrain may completely stop mounted Soldiers. The navigator must consider this when selecting a route.
 - (3) Most military vehicles will knock down a tree. The bigger the vehicle, the bigger the tree it can knock down. Vehicles cannot knock down several trees at once. It is best to find paths between trees that are wide enough for your vehicle. Military vehicles are designed to climb 60 percent slopes on a dry, firm surface.
 - (4) Determine slope by referring to map sheet. A typical road map will not have contour lines; therefore, refer to topographic maps).
 - (a) Check selected route on the map. Determine the slope by checking to see if there is a contour line in any 100 meters of map distance. If so, it is a 10 percent slope. If there are two contour lines, it is a 20 percent slope and so forth.
 - (b) Side slope is even more important than the slope you can climb. Normally, a 30 percent slope is the maximum in good weather. If you traverse a side slope, do it slowly and without turns.
- c. Recheck your progress along the route by comparing the map's terrain features and plotted checkpoints. Note any discrepancies that conflict with intelligence or reconnaissance reports and notify higher headquarters in accordance with local SOP.

Evaluation Preparation: Setup: Provide for the NCO a vehicle(s), vehicle operator(s), topographic map(s), or street map(s), marginal information, mission information, designated route information, protractor(s), and pencil(s).

Brief Soldier: He/She is to provide instructional information regarding the use of maps in motor transport operations and evaluate them on their performance in mounted land navigation. They will perform duties as vehicle navigator over a designated course that will prompt them to exercise their newly acquire skills and knowledge. You are to oversee their performance by using radio communication and first hand observations throughout the course. Provide immediate feedback to each Soldier following their performance.

Performance Measures**GO** **NO-GO**

1. Defined mounted navigator (assistant driver) duties.

- a. Assembling equipment. The navigator must have gathered all the equipment that will help him/her perform his/her job (maps, pencils, and so forth). He/She must have done this before the mission started.
- b. Servicing equipment. It is the navigator's duty to make sure that all the equipment he/she may use or require is working. This may include but is not limited to a compass or a Precision Lightweight GPS Receiver (PLGR). This included the Movement Tracking System if installed on vehicles.
- c. Recording Data for Precise Locations. During movement, the navigator must have made sure that the correct direction and distance were recorded and followed. Grid coordinates of locations must have been recorded and plotted.
- d. Supply Data to Subordinate Leaders. During movement, any change in direction or distance must be given to the subordinate leaders in sufficient time to allow them to react.
- e. Maintaining Liaison with Commander. The commander normally selects the route that he/she desires to use. The navigator is responsible for following that route; however, there may be times when the route must be changed during a tactical operation. For this reason, the navigator must maintain constant communication with the commander. The navigator must inform the commander when checkpoints are reached, when a change in direction of movement is required, and how much distance is traveled.

2. Oriented the map.

NOTE: Using a compass. A map is oriented when it is in a horizontal position with its north and south corresponding to the north and south on the ground.

a. First technique.

- (1) With the map in a horizontal position, take the straightedge on the left side of the compass and place it alongside the north-south grid line with the cover of the compass pointing toward the top of the map. This procedure places the fixed black index line of the compass parallel to north-south grid lines of the map.
- (2) Keeping the compass aligned as directed above, rotate the map and compass together until the magnetic arrow is below the fixed black index line on the compass. At this time, the map is close to being oriented.
- (3) Rotate the map and compass in the direction of the declination diagram.
- (4) If the magnetic north arrow on the map is to the left of the grid north, check the compass reading to see if it equals the GM angle given in the declination diagram.

Performance Measures**GO** **NO-GO**

- b. Second technique.
 - (1) Determine the direction of the declination diagram and its value from the declination diagram.
 - (2) Using any north-south on the map as a base, draw a magnetic azimuth equal to the GM angle given in the declination diagram with the protractor.
 - (3) If the declination is easterly (right), the drawn line is equal to the value of the GM angle. Then align the straightedge, which is on the left side of the compass, alongside the drawn line on the map. Rotate the map and compass until the magnetic arrow of the compass is below the fixed black index line. The map is now oriented.
 - c. Use Terrain Association. A map can be oriented by terrain association when a compass is not available or when the user has to make many quick references as he/she moves across country. Using this method requires careful examination of the map and the ground, and the user must know his/her approximate location using terrain association.
3. Explained the details of a topographic map. _____ _____
- a. Identified and/or determined topographic symbols such as:
 - (1) The map's legend. It normally contains the symbols used in a particular series or on that specific map sheet. Therefore, the legend should be referred to each time a new map sheet is used. The symbol should reflect as closely as possible what the feature is intended to be.
 - (2) Military symbols are added to give additional significance to the military application at the time the map is used. Refer to FM 1-02 for friendly and enemy unit symbols.
 - b. Identified terrain features on the map.
 - c. Determined grid coordinates using the military grid reference system.
 - d. Determined distance on the map from one point to another.
4. Explained the details of a road map. _____ _____
- a. Scale of the map if different than a topographic map. Determine to the best extend possible what the scale is of the map you are using.
 - b. Origin and destination.
 - c. Selected routes.
 - d. Cities and towns.
 - e. Four-lane divided highways, principle highways, and other thruways and roads.
 - f. Width and height of bridges and overpasses.
 - g. Rest and service areas.
 - h. Distance (miles, kilometers) from point of origin to destination.
 - i. Map symbols.
 - j. Special features on the map.
 - k. Alternate route(s).

Performance Measures**GO** **NO-GO**

- | | |
|--|---------------------------|
| <p>5. Explained the details of a strip map.</p> <p>a. Explained the following regarding strip maps:</p> <ul style="list-style-type: none"> (1) Origin and destination. (2) Start Point (SP) and Release Point (RP) if different from 4a above. (3) Routes and route numbers. (4) Major towns. (5) Major roads and crossroads. (6) Mileage between points. (7) Bivouac, rest, halt and refuel point. (8) Directional arrows. (9) Legend transferred from the map onto the strip map. (10) Alternate route(s). (11) Critical point(s). <p>b. Presented the following information concerning characteristics of a strip map:</p> <ul style="list-style-type: none"> (1) A strip map may be prepared from a route overlay, a route reconnaissance report, or a map reconnaissance. It is drawn on a standard sheet of paper to give the user the necessary information to reach his/her destination. (2) A strip map is generally distributed to squad leaders, convoy commanders, drivers, or route guides and normally shows only one route. (3) A strip map used as an appendix or annex could have many routes on it and could include bypasses for each route. (4) A strip map may indicate a sketch of a march, which may or may not be drawn to scale. | <p>_____</p> <p>_____</p> |
| <p>6. Prepared a strip map.</p> <p>a. Orientation. Placed the symbol for grid north on the sketch. Labeled it with a N to designate the general direction of north. Did not make any other orientation or grid references.</p> <p>b. Plotting detail.</p> <ul style="list-style-type: none"> (1) Drew the route of movement. (2) Plotted all critical points or areas along a route where movement may occur or where timing is critical. These include SPs, checkpoints, RPs, phase lines, bridges, tunnels, road junctions, city or town intersections where passage could be confusing, and areas or halts for messing, and refueling. (3) Plotted the SPs, and RPs. Label them with their abbreviation or number if appropriate. (4) Placed the distance between critical points in kilometers or miles (use a measurement that would be applicable based on the movement). | <p>_____</p> <p>_____</p> |

Performance Measures**GO** **NO-GO**

c. Created a heading.

- (1) The detail on such a map is the same as for a strip map used as an appendix or annex except no unit symbols or designation are used. If the map is extracted from a strip map with multiple routes, the only route that is included is the one the user needs.
- (2) Used the title that alludes to the order, but did not mention the order by name, number, or letter. Used the route name or a name that would be applicable for the movement (for example, Route Blue to Sherwood Forest).
- (3) Did not issue the strip map until the last possible moment.

7. Conducted mounted vehicular movement.

a. Via a road network.

- (1) Determined exact starting location and that of your destination.
- (2) Using either of the types of maps previously discussed, instructed your driver to begin movement along the route that has been selected.
- (3) Unlike dismounted land navigation, mounted navigating requires greater vigilance in determining your progress along the route while monitoring the map. Selected points may pass much faster than anticipated.
- (4) Compared location relative to the following:
 - (a) Your directional orientation.
 - (b) The direction and distances to your destination.
 - (c) Other landmarks and features (towns, intersections, lakes, streams, and so forth).
 - (d) Any impassible terrain, the enemy, and danger areas.
 - (e) Both the advantages and disadvantages presented by the terrain between you and your objective.
- (5) Used terrain features as checkpoints.
- (6) Determined distance. Got the total distance to be traveled and the approximate distance between points. Planned to use the vehicle odometer to keep track of distance traveled.

b. Via cross-country.

- (1) Used alternate routes when road were washed out.
- (2) Considered vehicle capabilities while navigating route.
- (3) Considered vehicle capabilities while navigating route.
 - (a) Checked selected route on the map. Determine the slope by checking to see if there is a contour line in any 100 meters of map distance. If so, it is a 10 percent slope. If there are two contour lines, it is a 20 percent slope and so forth.
 - (b) If you traverse a side slope was accomplished, it was done slowly and without turns.

c. Rechecked progress along the route by comparing the map's terrain features and plotted checkpoints. Noted any discrepancies that conflicted with intelligence or reconnaissance reports and notify higher headquarters in accordance with local SOP.

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.

References**Required**

FM 1-02

FM 3-25.26

FM 21-305

Related

Perform Duties as Convoy Commander

551-88M-3601

Conditions: In a contemporary operating environment (COE), given a mission by the company commander to serve as a convoy commander; vehicles and operators; subordinate noncommissioned officers (NCOs) to serve as serial/march unit commanders; information from the commander's operation order (OPORD); map overlays; cargo to transport; and a timeline to follow.

Standards: Plan, prepare and execute the mission of commanding a convoy in COE by ensuring that the following is accomplished; notification of all supporting elements to determine ability to support mission, clearly define intent and requirements of mission operations order, sufficient number of vehicles is allocated for mission, a route reconnaissance is performed by designated personnel, brief all convoy participants on their duties and responsibilities, resolve all issues that may hinder or prevent successful completion of mission, Complete all actions while adhering to convoy time line without injury to personnel or damage to equipment.

Performance Steps

1. Plan the convoy movement.
 - a. Consider the following as key factors in the planning process of a convoy.
 - (1) Mission, Enemy, Terrain, Troops Available, Time, and Civilian Considerations (METT-TC).
 - (2) The state of the training of drivers.
 - (3) Types of loads.
 - (4) Number of vehicles involved.
 - (5) Traffic conditions.
 - (6) Quality of road networks.
 - (7) Advanced/quartering party.
 - (8) Convoy control personnel.
 - (9) Start and release points.
 - (10) Halts.
 - (11) Gaps and march rate.
 - (12) Submission of movement bid (if applicable).
 - (13) Communications.
 - (14) Route reconnaissance.
 - (15) Escort and security elements.
 - (16) Convoy support.

NOTE: The convoy commander should always refer to the unit standing operating procedures (SOP) for standardized information concerning convoy guidelines. Whenever the SOP fails to provide the needed information, the convoy commander should solicit information from the unit chain of command and applicable regulations.

Performance Steps

- b. Review the OPORD.
 - (1) Determine the number of vehicles needed.
 - (2) Determine the number of personnel required.
 - (3) Determine if a special hauling permit is required.
 - (4) Determine the necessity of available supporting elements (fire support, close air support, engineer, chemical, or refueling support).
 - (5) Determine if a movement bid or convoy clearance is necessary. If so, submit request (DD Form 1265 (Request for Convoy Clearance)). This requirement is based on local guidelines (SOP) and the selected route for the convoy. In North Atlantic Treaty Organization (NATO) controlled areas, standardization agreements (STANAG) 2154 and STANAG 2155 are applicable. Submit at least 10 days prior to planned move.
 - (6) Determine if request for oversized vehicles/loads is required. If so, submit DD Form 1266 (Request for Special Hauling Permit). The request must reach the approving authority 15 days before the planned move.
 - (7) Determine the convoy route.
- c. Conduct a map and route reconnaissance of the convoy route. Use engineer reconnaissance report information (DA Form 1711 (Engineer Reconnaissance Report)), if available, to determine route characteristics that may play a key part in your convoy mission.
 - (1) Select an alternate route, if possible.
 - (2) Determine all critical points/check points.
 - (3) Determine situational requirements.
 - (4) Determine choke points along the route that may endanger the mission.
 - (5) Plot all necessary items on a map.
 - (6) Plot scheduled halts.
- d. Perform a risk management in accordance with FM 5-19.
- e. Determine the size of serial/march units.
- f. Determine march rate (if not covered by the SOP).
- g. Determine the vehicle march order, interval, and location of key vehicles within the convoy.
- h. Determine the pre-departure assembly area. Seek command guidance if information is not provided in OPORD.
- i. Determine security requirements. Consider the following:
 - (1) Noise and light discipline.
 - (2) Front, flank, and rear security.
 - (3) Security during halts.
 - (4) Air cover.
 - (5) Fire support.
 - (6) Communications security.
 - (7) Deception.
- j. Determine necessity and availability of spare vehicle (bobtails) for recovery.
- k. Determine maintenance support.
- l. Determine key convoy chain of command duty positions. Include the following:
 - (1) Assistant convoy commander.
 - (2) Serial/march unit commanders.
 - (3) Pacesetter.
 - (4) Trail officer.
 - (5) Trail maintenance officer.

Performance Steps

- m. Delegate responsibility to construct strip maps for all drivers.
- n. Determine if and how many route guides are necessary.
- o. Determine time/distance factors. Consider driver limitations, maximum driving time per shift, and co-drivers.
- p. Coordinate with squad leaders and maintenance sergeant and other platoon sergeants on availability of vehicles to support the movement.
- q. Determine the preparation timeline for the following:
 - (1) Loading of vehicles.
 - (2) Marshaling vehicles.
- r. Determine the makeup and duties of the advance/quartering party to be performed at the destination (as applicable). Consider the following:
 - (1) NCOIC.
 - (2) Other key personnel.
 - (3) Ensuring that the convoy is able to move quickly off the route and into the marshaling area.
 - (4) Positioning of vehicles within the marshaling area.

2. Prepare for convoy movement.

NOTE: The convoy commander must perform specific actions to prepare the convoy. A limited amount of time is available to accomplish the following: select and reconnoiter the route, submit a movement bid if required (DD Form 1265), effect coordination for en route security, give instructions to subordinate element commanders and other supervisory personnel, inspect personnel and vehicles, and brief convoy personnel).

- a. Submit a request for convoy clearance and oversized vehicle/load permits (if applicable).
- b. Assign key convoy duty positions within the convoy to include the following:
 - (1) Assistant convoy commander.
 - (2) Serial/march unit commanders.
 - (3) Pacesetter.
 - (4) Trail officer.
 - (5) Trail maintenance officer.
 - (6) Route guides (if necessary).
 - (7) Security NCOIC and force.
- c. Brief and dispatch the advance/quartering party to destination (as applicable).
- d. Ensure that the following pre-departure actions are done prior to movement.
 - (1) Instruct the serial/march unit commander(s) to do the following:
 - (a) Supervise and spot check all preventive maintenance of convoy vehicles.
 - (b) Ensure that all vehicles are dispatched according to the unit SOP.
 - (c) Ensure that all personnel involved in the convoy are prepared and have in their possession all items identified by unit SOP for the convoy mission.
 - (d) Ensure that all vehicles, to include trailers and support vehicles, are loaded and prepared for movement as directed.

Performance Steps

- (e) Ensure that all personnel have in their possession all applicable accident and load forms required by the unit SOP and regulation (DD Form 518 (Accident Identification Card) and SF Form 91 and DD Form 626 [Motor Vehicle Inspection] and DD Form 836 [Dangerous Goods Shipping Paper/Declaration and Emergency Response] [if transporting HAZMAT] prior to movement.
- (f) Ensure that all vehicles are marked with convoy clearance numbers (if movement is over a controlled route).
- (g) Ensure that convoy control vehicles are marked with the appropriate flags, signs, or lights (as applicable).
- (h) Relay all necessary communications information.
- (i) Hand out all strip maps to vehicle crews.
- (j) Perform sensitive items check (to be verified during convoy briefing).
- (2) Once all vehicles, loads, and personnel have been checked, supervise the staging of vehicles in the designated assembly area by order of march and serial/march unit.
- (3) Coordinate to obtain artillery support (if available).
- e. Ensure that all of the following questions are answered (Convoy Commander's Checklist) prior to movement.
 - (1) Where is the start point (SP)? The release point (RP)?
 - (2) What route is to be used?
 - (3) Has reconnaissance been made? Condition of route determined?
 - (4) Can bridges, tunnels, underpasses, and defiles safely accommodate all loaded and tracked (if applicable) vehicles?
 - (5) Are critical points known and listed on the map?
 - (6) What is the size of serials?
 - (7) What is the size of march units?
 - (8) What is the rate of march?
 - (9) What is the vehicle interval on an open road? Built-up road?
 - (10) What type of column will be used?
 - (11) What provision has been made for refueling (if applicable)?
 - (12) Has a suitable operations area been selected?
 - (13) Have suitable rest and mess-halt area been selected?
 - (14) Have convoy clearances been obtained? What date?
 - (15) Is an escort required? Has it been requested?
 - (16) Are spare trucks available for emergencies?
 - (17) Are vehicles fully serviced and ready for loading?
 - (18) Are loads properly blocked and braced, neat, and balanced?
 - (19) Are drivers properly briefed? By whom? When? Strip maps furnished?
 - (20) Is the convoy marked front and rear of each march unit? With convoy number when required? Is each vehicle marked? Are convoy flags on the vehicles?
 - (21) Are guides in place? Have arrangements been made to post and recover them?
 - (22) Are blackout lights functioning?
 - (23) Have maintenance services been alerted?
 - (24) Is the maintenance truck in the rear? Are medics in the rear?
 - (25) Are all interested parties advised of the estimated time of arrival (ETA)?
 - (26) Is the officer at the rear of the convoy ready to take necessary corrective action (such as investigating accidents and unusual incidents and changing loads)?

Performance Steps

- (27) Who is the trail officer?
 - (28) Is there a truck unloading plan? Who is responsible? Do they have the necessary equipment?
 - (29) Is there a plan for feeding personnel?
 - (30) Have times been established for loading trucks?
 - (31) Has time been established for formation of convoy?
 - (32) Have times been established for unloading trucks?
 - (33) Has time been established for releasing trucks? Who is responsible?
 - (34) Is there a carefully conceived plan known to all convoy personnel that can be used in case of an attack?
 - (35) Is a written OPORD, if required, on hand?
 - (36) Will a log of road movement be required at the end of the trip? Are necessary forms on hand?
 - (37) Has a weather forecast been obtained?
 - (38) Do all personnel have proper clothing and equipment?
 - (39) Is there a communications plan? Where will communications equipment be located? Has all communications equipment been serviced?
 - (40) If transporting hazardous materials, have all involved vehicles been appropriately placarded? Are load manifests in the driver's door pocket or otherwise readily available and known by convoy personnel?
 - (41) Have vehicles containing HAZMAT been placed at appropriate locations within the convoy to reduce residual damage in case of enemy attack?
 - (42) Has every effort been made to camouflage vehicles to the extent possible during movement? At halts?
- f. Conduct convoy briefing.

NOTES:

1. The convoy commander's briefing is given after all other movement preparations have been completed and verified by all responsible parties and the convoy is prepared to move.
2. Gather applicable information from the commander's OPORD and local SOP to complete your convoy briefing. Provide as much applicable information as possible that may affect the convoy movement. Apply the information in the following format.

- (1) Situation.
 - (a) Enemy forces.
 - (b) Friendly forces.
 - (c) Support units.
- (2) Mission.
 - (a) Type of cargo (to include hazardous materials precautions and guidelines).
 - (b) Origin.
 - (c) Destination.
- (3) Execution.
 - (a) General organization.
 - (b) Time schedule.
 - (c) Convoy speed.
 - (d) Catch-up speed.

Performance Steps

- (e) Vehicle distance.
- (f) Emergency measures (for accidents, breakdowns, and separation from the convoy).
- (g) Actions of convoy and security personnel if attacked.
- (h) Medical support.
- (4) Administration and logistics.
 - (a) Personnel control.
 - (b) Billeting.
 - (c) Messing.
 - (d) Refueling and servicing of vehicles, complying with spill prevention guidelines.
- (5) Command and signal.
 - (a) Convoy commander's location.
 - (b) Assistant convoy commander's designation (succession of command).
 - (c) Actions of security force commander.
 - (d) Serial commander's responsibilities.
 - (e) Arm and hand signals.
 - (f) Other prearranged signals.
 - (g) Radio frequencies and call signs (for control personnel, security force commanders, fire support elements, reserve security elements, and medical evacuation).
- (6) Safety.
 - (a) Hazards of the route.
 - (b) Weather conditions.
 - (c) Defensive driving.
- (7) Environmental protection.
 - (a) Spill prevention.
 - (b) Transporting HAZMAT.

3. Conduct the convoy movement.**NOTES:**

1. Convoy commander should maintain a log of events during the convoy that may be required in the convoy commander's report upon completing the convoy movement.
2. The convoy commander must be able to monitor and control all aspects of vehicle operations within the convoy. The convoy commander is ultimately responsible for ensuring that all assets arrive safely at the destination with a minimal amount of losses. The convoy commander's ability to delegate authority and enforce march discipline are key factors in mission accomplishment.
 - a. Conduct a communications check of all systems in the convoy radio net. Correct all communications deficiencies on the spot.
 - b. Signal all drivers to start engines.
 - c. Give the signal to begin movement and depart the assembly area (at the time designated in movement order). Use the closed column formation until entry onto the main convoy route. If expressways are used, instruct drivers to close to approximately 20 meter vehicle interval when entering the acceleration ramp.
 - d. Ensure that the convoy reaches the SP according to the established timeline.
 - e. Monitor radio traffic.
 - f. Ensure that the trail officer relays passing the SP on the established timeline.

Performance Steps

- g. Ensure that the pacesetter maintains established speed.
 - h. Signal drivers to adjust speed and interval accordingly.
 - i. Notify higher headquarters upon passing each check/critical point on the route (as directed by the SOP or commander).
 - j. During halts, ensure that serial/march unit commanders (if entire convoy is at halt) complete halt checks on personnel, vehicles, and loads.
 - (1) Ensure that vehicles are staged so as to facilitate rapid movement. Vehicles should remain in the same order of march as during movement.
 - (2) Ensure that security is posted to prevent pilferage or compromise by enemy forces.
 - (3) Exchange drivers if operating limits have been reached. Do not exceed authorized driving times as listed in AR 385-10, paragraph 11-4.
 - k. As terrain dictates, direct the column into open or closed formations. Movement through urban areas will facilitate closing the formation to established vehicle intervals.
 - l. Enforce passive and active defense measures within the convoy.
 - m. Enforce operations security (OPSEC) and communications security (COMSEC).
 - n. Report any enemy contact made during movement to higher headquarters. Include attack location, size of the enemy force if known, types and number of weapons used, damage inflicted on convoy assets, reactive measures taken, casualties incurred, and any information covered in the unit SOP.
 - o. As the convoy passes the RP, ensure that vehicle accountability is conducted and that control is relinquished (as applicable) for those elements (supply convoy) in which custody and control will change and elements may continue to other destinations.
 - p. Contact trail/trail maintenance officer for updates on any/all vehicle breakdowns, actions taken, and status of effected equipment/loads/personnel.
4. Conduct convoy closure operations.
- a. For those convoy assets that are relinquished upon crossing the RP, ensure that the chain of custody is not broken and that all command and control of released assets is delegated to authorized personnel.
 - b. For those convoy assets that remain under current convoy control upon crossing RP, the following steps apply.
 - c. Ensure that persons designated as ground guides (either assistant drivers or advanced party personnel) escort vehicles off the convoy route and into the assembly area in a timely manner to minimize congestion.
 - d. Enforce security measures in the assembly area.
 - e. Ensure that all vehicles are positioned in the assembly area as to facilitate security and for off-loading operations as necessary.
 - f. Instruct serial/march unit commanders/squad leaders to conduct sensitive items checks and supervise after-operations maintenance on vehicles.
 - g. Ensure that vehicles with hazardous cargo are positioned away from facilities according to regulations (DA Pamphlet AM 385-64, paragraph 11-15).
 - h. Maintain contact with trail/trail maintenance officer for closure through RP.
 - i. Facilitate the recovery of damaged or other non-operational vehicles upon arrival at the assembly area.
 - j. Coordinate with trail/trail maintenance officer for information regarding any vehicle accident reports that may be necessary (DA Form 285 [Technical Report of US Army Ground Accident]).

Performance Steps

- k. Report closure and convoy status to higher headquarters according to the unit SOP.
- l. If required, submit convoy commander's report to higher headquarters according to FM 55-15, Chapter 3 and FM 55-30, Appendix R.

Evaluation Preparation: Setup: Evaluate this task during a field training exercise or normal training session. Provide the Soldier with the items listed in the conditions statement.

Brief Soldier: Tell the Soldier he/she will be evaluated on his/her ability to properly perform duties as a convoy commander.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Planned the convoy movement.	_____	_____
2. Prepared for convoy movement.	_____	_____
3. Conducted the convoy movement.	_____	_____
4. Conducted convoy closure operations.	_____	_____

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.

References**Required**

AR 55-162
DA FORM 285
DA FORM 1711
DA PAM 385-64
DD FORM 518
DD FORM 626
DD FORM 836
DD FORM 1265
DD FORM 1266
FM 3-34.170
FM 4-01.30
FM 5-0
FM 5-19
FM 21-60
FM 21-305
FM 55-15
FM 55-30
SF FORM 91
STANAG 2154
STANAG 2155

Related

AR 385-10

Subject Area 10: Motor Pool Management

Supervise Motor Pool Operations

551-88M-3333

Conditions: As a squad leader within a truck platoon, given vehicles, motor pool area, maintenance area, dispatching office and Soldiers assigned to your squad, all necessary applicable forms and records, and an ongoing support mission you are required to supervise motor pool operations. Given vehicles, motor pool area, maintenance area, dispatching office, personnel, and all appropriate vehicle operator's manuals (-10 series TMs) to accomplish the mission of the motor pool operation.

Standards: You will perform supervisory duties over your squad assuring that all your Soldiers are fully qualified to maintain and operate assigned vehicles, briefed about upcoming missions, maintain your squad-assigned area within the motor pool, and ensure that your platoon sergeant is kept informed of your squad's complete operational status for mission support.

Performance Steps

1. Supervise squad vehicle operators performing operator maintenance of assigned vehicles.
 - a. Ensure all squad personnel are trained in the use of applicable vehicle and/or equipment technical references.
 - b. Ensure that all applicable maintenance forms and records are available and used in accordance with DA Pamphlet 750-8.
 - c. Conduct spot checks of vehicles to ensure accuracy of operator maintenance being performed.
 - d. Ensure all required petroleum, oil, and lubricants are available and properly used in the performance of preventive maintenance checks.
 - e. Spot check maintenance forms to ensure proper information is provided by vehicle or equipment operator upon completion of maintenance checks.
 - f. Sign maintenance worksheets as supervisor upon completion of preventive maintenance checks (if so designated by unit SOP).
 - g. Coordinate with platoon sergeant and unit maintenance personnel on availability of replacement parts for assigned vehicles and equipment.
 - h. Ensure that all vehicle operators adhere to all safety guidelines as specified in the unit maintenance SOP.
 - i. Ensure that your squad members adhere to proper disposal of hazardous waste from vehicles as needed.
 - j. Enforce no smoking regulations within motor pool and fuel points.
 - k. Update platoon sergeant on vehicle and equipment operational status at completion of maintenance checks.
 - l. Report evidence of vehicle abuse or neglect to platoon sergeant.
2. Ensure all vehicle operators are fully qualified to operate assigned vehicles.
 - a. Coordinate with the commander's designated records reviewer on accuracy of DA Form 348 [Equipment Operator Qualification Record (Except Aircraft)] or DA Form 5983-E (Equipment Operator Qualification Record).
 - b. Ensure all newly assigned drivers are scheduled to attend drivers training course.
 - c. Ensure driving records are updated to reflect current operator performance and completed driver training.

Performance Steps

- d. Ensure that newly licensed operators are familiarized and if possible assigned a vehicle of responsibility within the squad.
 - e. Ensure that all operators receive recognition for outstanding performance and submit recommendations to platoon sergeant for all applicable driving awards.
3. Ensure availability of vehicles and operators for mission support.
- a. Coordinate with platoon sergeant for requirements of vehicles and operators for mission support.
 - b. If vehicles are to be loaded, ensure loads are properly placed and secured to vehicle. Ensure placarding is properly placed if cargo is hazardous.
 - c. Ensure proper number and type vehicles are available and dispatched.
 - d. Ensure that all squad vehicle operators are familiar with mission, route, and destination.
 - e. Inspects and if necessary, corrects the trip records maintained by operators.
4. Ensure squad-assigned area within motor pool is maintained.
- a. All vehicles are positioned according to motor pool layout
 - b. All vehicles have drip pans positioned properly
 - c. All vehicles are properly parked and chocked to prevent accidental movement
 - d. Vehicle canvas and bow assemblies are properly installed and secured
 - e. Ensure that all vehicles are properly grounded (as applicable)
 - f. Ensure that all assigned tools, vehicle BII, and equipment is accounted for, kept clean and serviceable, and secured in squad building or CONEX when not being used by squad personnel.
 - g. Ensure that all vehicles not on dispatch are properly secured as designated in unit SOP.
 - h. Ensure all vehicle equipment record folders and maintenance worksheets are turned in to unit maintenance personnel (guidance in accordance with unit SOP).
 - i. Keep platoon sergeant informed as to status of squad personnel, vehicles, and equipment.

Performance Measures**GO** **NO-GO**

1. Supervised squad vehicle operators performing organizational maintenance of assigned vehicles.
- a. Ensured all squad personnel are trained in the use of applicable vehicle or equipment technical references.
 - b. Ensured that all applicable maintenance forms and records are available and used according to DA Pamphlet 750-8.
 - c. Conducted spot checks of vehicles to ensure accuracy of operator maintenance being performed.
 - d. Ensured all required petroleum, oil, and lubricants are available and properly used in the performance of preventive maintenance checks.
 - e. Spot checked maintenance forms to ensure proper information is provided by vehicle or equipment operator upon completion of maintenance checks.
 - f. Signed maintenance worksheets as supervisor upon completion of preventive maintenance checks (if so designated by unit SOP).
 - g. Coordinated with platoon sergeant and unit maintenance personnel on availability of replacement parts for assigned vehicles and equipment.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
2. Ensured all vehicle operators are fully qualified to operate assigned vehicles. <ul style="list-style-type: none"> a. Coordinated with the commander's designated records reviewer on accuracy of DA Form 348 or DA Form 5983-E. b. Ensured all newly assigned drivers are scheduled to attend drivers training course. c. Ensured driving records are updated to reflect current operator performance and completed driver training. d. Ensured that newly licensed operators are familiarized and if possible assigned a vehicle of responsibility within the squad. e. Ensured that all operators receive recognition for outstanding performance and submit recommendations to platoon sergeant for all applicable driving awards. 	—	—
3. Ensured availability of vehicles and operators for mission support. <ul style="list-style-type: none"> a. Coordinated with platoon sergeant for requirements of vehicles and operators for mission support. b. If vehicles are to be loaded, ensured loads are properly placed and secured to vehicle. Ensured placarding is properly placed if cargo is hazardous. c. Ensured proper number and type vehicles are available and dispatched. d. Ensured that all squad vehicle operators are familiar with mission, route, and destination. e. Inspected and if necessary, corrected the trip records maintained by operators. 	—	—
4. Ensured squad-assigned area within motor pool is maintained. <ul style="list-style-type: none"> a. All vehicles were positioned according to motor pool layout b. All vehicles have drip pans positioned properly c. All vehicles were properly parked and chocked to prevent accidental movement d. Vehicle canvas and bow assemblies were properly installed and secured e. Ensured that all vehicles are properly grounded (as applicable) f. Ensured that all assigned tools, vehicle BII, and equipment is accounted for, kept clean and serviceable, and secured in squad building or CONEX when not being used by squad personnel. g. Ensured that all vehicles not on dispatch are properly secured as designated in unit SOP. h. Ensured all vehicle equipment record folders and maintenance worksheets are turned in to unit maintenance personnel (guidance in accordance with unit SOP). i. Kept platoon sergeant informed as to status of squad personnel, vehicles, and equipment. 	—	—

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.

References

Required

AR 385-10

AR 600-55

DA PAM 750-3

DA PAM 750-8

FM 21-305

FM 55-30

Related

Supervise Driver Training Program 551-88M-3335

Conditions: As a certified driver training instructor, given a driver testing and training device, designated driver training and testing area, lesson plans and reference materials, dispatched vehicles, safety cones, and qualified driver candidates.

Standards: You will complete the setup of the training and testing facilities, administer all physical evaluation measures, ensure that student prerequisites are met, administer required driver training instruction, control all student vehicle operation, enforce driver safety rules and techniques, test candidates according to regulation, and assist in the licensing process of all drivers. All student performance will be documented and the appropriate actions taken. No injury to personnel or damage to vehicles or driving facilities will occur.

Performance Steps

1. Conduct preparations for driver/operator selection, training, and testing (see Figure 3-41).

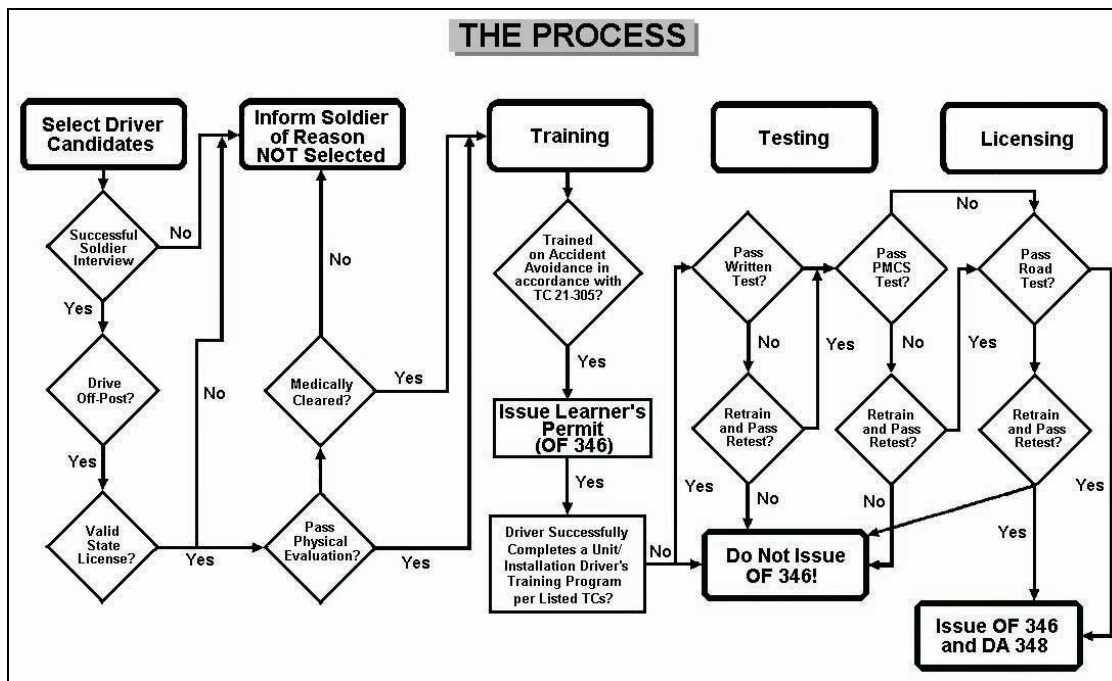


Figure 3-41. The Driver/Operator Training Process

- Ensure all driver training lesson plans are present and up to date.
- Ensure all reference materials are available (regulations and training circulars).
- Ensure all vehicles are dispatched and ready for training.
- Ensure driver testing and training device is available and in working condition.
 - (1) Perform trial test to familiarize with equipment and to ensure it is working condition.
 - (2) Construct equivalent testing instruments in lieu of availability of testing and training device (must be made to accurately measure the same physical characteristics).
- Conduct a risk analysis of the training to be conducted.
- Setup the assigned driving range.

Performance Steps

- g. Testing site should include:
 - (1) Forward stop.
 - (2) Straight line backing.
 - (3) Right turn.
 - (4) Alley dock.
 - (5) Eight left and eight right turns.
 - (6) Straight section of urban business street.
 - (7) Two through intersections and two intersections requiring stop.
 - (8) Two railway crossings.
 - (9) Two curves, one left, one right.
 - (10) A two-lane rural or semi-rural road.
 - (11) A section of expressway.
 - (12) A downgrade.
 - (13) An upgrade.
 - (14) A downgrade for stopping.
 - (15) An upgrade for stopping.
 - (16) An underpass or low clearance and one bridge.
- 2. Conduct physical evaluation of driver candidates (if required by regulation).
 - a. Ensure all candidates have been interviewed and selected by the commander or their designated representative.
 - b. Ensure all candidates possess a valid civilian driver's license (required if they are vehicle operators and will be required to drive off-post).
 - c. Ensure the purpose and objective of physical evaluation (if used), is understood.
 - d. Ensure students meet minimum physical evaluation performance standards (if required) for:
 - (1) Visual acuity.
 - (2) Field of vision.
 - (3) Depth perception.
 - (4) Color perception.
 - (5) Foot reaction time.
 - (6) Hearing test.
 - e. Ensure results are posted to DA Form 348 (Equipment Operator's Qualification Record (Except Aircraft)).
 - f. Ensure a Learner Permit OF Form 346/DA Form 5984-E (Operator's Permit Record)) is issued to each candidate after they successfully complete the Accident Avoidance portion of training (if required).
- 3. Conduct review of examiner, instructor, and assistant instructor qualifications, to include:
 - a. Ensure they have been selected and are appointed in writing to train operators. Appointment should be on the specific type of equipment/vehicle according to the regulations.
 - b. Ensure they are licensed to operate the type of equipment/vehicle being used for training.
 - c. Ensure they possess the technical knowledge and experience required for the equipment/vehicle being used for training.
- 4. Conduct driver training instruction, to include:
 - a. Unit A - Introduction (to include safety briefing), organization of the course, materials review.
 - b. Unit B - Driver responsibilities and government liability.

Performance Steps

- c. Unit C - State, local, host nation, and post traffic regulations.
- d. Unit D - Use of Army publications and blank forms, to include:
 - (1) DA Form 5987-E/DD Form 1970.
 - (2) DA Form 5988-E/DA Form 2404/DA Form 2408-14 (Uncorrected Fault Record).
 - (3) DD Form 518.
 - (4) SF Form 91.
- e. Unit E - Vehicle inspection, preventive maintenance checks and services (PMCS).
- f. Unit F - Accident avoidance.
- g. Unit G - Driver energy and environmental consideration.
- h. Unit H - Introduction to specific vehicles.
- i. Unit I - Military convoy operations, including night driving.
- j. Unit J - Off-road driving.
- k. Unit K - Vehicle self-recovery operations.
- l. Unit L - Vehicle driver performance evaluation.
- m. Unit M - Response to emergency situations, vehicle malfunctions.
- n. Unit N - Driving Range as setup by local commanders.
- o. Unit O - Written examination.
- p. Unit P - Preventive Maintenance (PMCS) test.
- q. Unit Q - Road test (after completion of training).
- r. Unit R - Additional course instruction should be included with respect to unit-specific vehicle characteristics and ancillary devices as part of vehicle performance (for example coupling/uncoupling semitrailer and crane/winch operation).

5. Conduct driver testing.

NOTE: Only driver-training candidates that have received the complete course of instruction are to be tested.

- a. Enforces vehicle safety and fire prevention measures.
- b. Practices and administers test to qualified driver on same type of vehicle.
- c. Verifies that all examinees have completed the course of instruction as stipulated by AR 600-55 and local standing operating procedure (SOP).
- d. Administers written test.
- e. Administers PMCS test.
- f. Administers vehicle control test.
 - (1) Only tests those examinees that have successfully passed the PMCS test.
 - (2) Records examinee performance on DA Form 6125-R (Road Test Score Sheet).
- g. Administers on-the-road test.
 - (1) Only tests those examinees that have successfully passed the vehicle control test.
 - (2) Records examinee performance on DA Form 6125-R.
- h. Terminates the test on any examinee(s) that failed to achieve a passing score on any test.
 - (1) Records results on DA Form 6125-R.
 - (2) Conducts after action review for the examinee.

Performance Steps

6. Conduct equipment operator training instruction, to include:
 - a. Mechanical equipment required by regulation or command policy.
 - b. Ground support equipment required by regulation or command policy.
 - c. Night vision goggles (if required).
 - d. Special equipment required by regulation or command policy.
7. Conduct equipment operator testing.

NOTE: Only candidates that have received the complete course of instruction are to be tested.

- a. Ensure written examinations are administered according to regulatory guidance.
 - b. Enforces vehicle safety and fire prevention measures.
 - c. Verifies that all examinees have completed the course of instruction as stipulated by AR 600-55 and local authority (SOP).
 - d. Administers PMCS test.
 - e. Administers equipment-specific test.
 - (1) Only tests those examinees that have successfully passed the PMCS test.
 - (2) Records examinee performance on the equipment qualification record.
 - f. Terminates the test on any examinee(s) that failed to achieve a passing score on any test.
 - (1) Records results on equipment qualification record.
 - (2) Conducts after action review for the examinee.
8. Conduct sustainment and remedial training.
 - a. Ensure sustainment training is conducted as required for active Army Soldiers.
 - b. Ensure sustainment training is conducted as required for Reserve Component Soldiers.
 - c. Ensure remedial training is conducted when required.
 - d. Ensure refresher training is conducted when required.
9. Control the issue of operator permits (OF Form 346/DA Form 5984-E).
 - a. Ensure standard permits are issued according to the regulations.
 - b. Ensure special purpose permits are issued according to the regulations.
 - c. Ensure renewals are issued according to the regulations.
 - d. Ensure suspensions and revocations are controlled according to the regulations or local command policy.
 - e. Ensure replacement permits are processed and issued according to the regulations.

Evaluation Preparation: Setup: Provide for the solder an established driver training program. Provide driver records, training areas, driver candidates, and vehicles.

Brief Soldier: You have been designated, in writing, as a driver training instructor. You are to assume a supervisory role over prospective driver candidates. You are to conduct interviews with candidates and conduct and supervise driver selection, training, testing, and licensing. All required entries for drivers will reflect the training they have received.

NO-GO

-

Performance Measures	<u>GO</u>	<u>NO-GO</u>
<p>3. Conducted review of examiner, instructor and assistant instructor qualifications, to include:</p> <ul style="list-style-type: none"> a. Ensured they were command selected and are appointed in writing to train operators. b. Ensured they were licensed to operate the type of equipment/ vehicle being used for training. c. Ensured they possessed the technical knowledge and experience required for the equipment/vehicle being used for training. 	—	—
<p>4. Conducted driver training instruction, to include:</p> <ul style="list-style-type: none"> a. Unit A - Introduction (to include safety briefing), organization of the course, materials review. b. Unit B - Driver responsibilities and government liability. c. Unit C - State, local, host nation, and post traffic regulations. d. Unit D - Use of Army publications and blank forms, to include: <ul style="list-style-type: none"> (1) DA Form 5987-E/DD Form 1970. (2) DA Form 5988-E/DA Form 2404/DA Form 2408-14. (3) DD Form 518. (4) SF Form 91. e. Unit E - Vehicle inspection, preventive maintenance checks and services (PMCS). f. Unit F - Accident avoidance. g. Unit G - Driver energy and environmental consideration. <ul style="list-style-type: none"> (1) Only tested those examinees that have successfully passed the vehicle control test. (2) Recorded examinee performance on DA Form 6125-R. h. Unit H - Introduction to specific vehicles. i. Unit I - Military convoy operations, including night driving. j. Unit J - Off-road driving. k. Unit K - Vehicle self-recovery operations. l. Unit L - Vehicle driver performance evaluation. m. Unit M - Response to emergency situations, vehicle malfunctions. n. Unit N - Driving Range as setup by local commanders. o. Unit O - Written examination. p. Unit P - Preventive Maintenance (PMCS) test. q. Unit Q - Road test (after completion of training). 	—	—
<p>5. Conducted driver testing.</p> <p>NOTE: Only driver-training candidates that have received the complete course of instruction are to be tested.</p> <ul style="list-style-type: none"> a. Enforced vehicle safety and fire prevention measures. b. Practiced and administered test to regular qualified driver on same type of vehicle. c. Verified that all examinees have completed the course of instruction as stipulated by AR 600-55 and local authority (SOP). d. Administered written test. e. Administered PMCS test. 	—	—

Performance Measures

GO **NO-GO**

- | | |
|--|---------------------------|
| <p>f. Administered vehicle control test.</p> <p>(1) Only tested examinees that have successfully passed the PMCS test.</p> <p>(2) Recorded examinee performance on DA Form 6125-R.</p> <p>g. Administered on-the-road test.</p> <p>(1) Only tested those examinees that have successfully passed the vehicle control test.</p> <p>(2) Recorded examinee performance on DA Form 6125-R.</p> <p>h. For any examinee(s) that failed to achieve a passing score on any test, terminated the test.</p> <p>(1) Recorded results on DA Form 6125-R.</p> <p>(2) Conducted after action review for the examinee.</p> | <p>_____</p> <p>_____</p> |
| <p>6. Conducted equipment operator training instruction, to include:</p> <p>a. Mechanical equipment required by regulation or command policy.</p> <p>b. Ground support equipment required by regulation or command policy.</p> <p>c. Night vision goggles (if required).</p> <p>d. Special equipment required by regulation or command policy.</p> | <p>_____</p> <p>_____</p> |
| <p>7. Conducted equipment operator testing.</p> <p>a. Ensured written examinations are administered according to regulatory guidance.</p> <p>b. Enforced vehicle safety and fire prevention measures.</p> <p>c. Verified that all examinees have completed the course of instruction as stipulated by AR 600-55 and local authority (SOP).</p> <p>d. Administered PMCS test.</p> <p>e. Administered equipment-specific test.</p> <p>(1) Only tested those examinees that successfully passed the PMCS test.</p> <p>(2) Recorded examinee results on the equipment qualification record.</p> <p>f. For any examinee(s) that failed to achieve a passing score on any test, terminated that test.</p> <p>(1) Recorded results on equipment qualification record.</p> <p>(2) Conducts after action review for the examinee.</p> | <p>_____</p> <p>_____</p> |
| <p>8. Conducted sustainment and remedial training.</p> <p>a. Ensured sustainment training was conducted as required for active Army Soldiers.</p> <p>b. Ensured sustainment training was conducted as required for Reserve Component Soldiers.</p> <p>c. Ensured remedial training was conducted when required.</p> <p>d. Ensured refresher training was conducted when required.</p> | <p>_____</p> <p>_____</p> |
| <p>9. Controlled the issue of operator permits (OF Form 346/DA Form 5984-E).</p> <p>a. Ensured that standard permits were issued according to the regulations.</p> <p>b. Ensured special permits were issued according to the regulations.</p> <p>c. Ensured renewals were issued according to the regulations.</p> <p>d. Ensured suspensions and revocations are controlled according to the regulations or local command policy.</p> <p>e. Ensured replacement permits are processed and issued according to the regulations.</p> | <p>_____</p> <p>_____</p> |

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.

References**Required**

AR 385-10
AR 600-55
AR 611-5
DA FORM 348
DA FORM 2404
DA FORM 2408-14
DA FORM 5984-E
DA FORM 5987-E
DA FORM 5988-E
DA FORM 6125-R
DD FORM 518
DD FORM 1970
FM 21-305
FM 55-30
OF FORM 346
SF FORM 91

Related

Subject Area 11: Convoy Planning and Operation

Conduct Reconnaissance of Convoy Route**551-88M-3602**

Conditions: You have been tasked to conduct a road reconnaissance in support of an upcoming convoy movement. You are the convoy commander and have received operations order information and general area containing several possible routes. You have the necessary vehicle, equipment, and personnel.

Standards: You will successfully conduct a road reconnaissance of the convoy route. You will select an appropriate primary and alternate route that will support your movement. All critical points will be identified. Friendly and enemy units in the vicinity must be identified and plotted on your overlay. You will indicate halt and release point locations. You will record and report all necessary route information to higher headquarters and for use on your convoy movement.

Performance Steps

1. Conduct reconnaissance preparations.
 - a. If convoy route has already been selected, obtain overlay information from commander or battalion Operations & Training Officer (S-3). If not, obtain guidance from commander/operations order (OPORD).
 - b. Select personnel, vehicles, and equipment involved in reconnaissance effort and provide this information to the commander prior to departure.
 - c. Conduct a map reconnaissance of selected route.
 - (1) Select a tentative route (if not selected by S-3) based on the following:
 - (a) Time/Distance factors.
 - (b) Current and expected enemy activities.
 - (c) Availability of security forces.
 - (d) Fire support along the selected route.
 - (e) Trafficability of roadbed.
 - (f) Restrictions of transporting hazardous cargo through populated areas.
 - (g) Tentative checkpoints.
 - (h) Ascertain possible critical points and ambush sites. If available, contact the Division Transportation Officer (DTO) or servicing Movement Control Team (MCT) through whose area the convoy will pass.
 - (i) Possible fording locations.
 - (j) Built-up areas along the route.
 - (k) Availability of alternate route(s).
 - d. Establish communications with unit prior to departure.
 - e. Contact units through whose area (in the combat zone) the convoy will pass.
2. Conduct road reconnaissance.
 - a. Record the following information on the map.
 - (1) Indicate the location for scheduled halts.
 - (2) Draw in a bypass or alternate route.
 - (3) Indicate the location of problem areas along the route.
 - (4) Indicate release point.
 - b. Verify and record the following information from map reconnaissance.
 - (1) Critical/check points along the route.
 - (2) Condition of roadbed (will it support the convoy traffic)?

Performance Steps

- (3) Location of any halt areas.
 - (4) Defiles and ambush sites.
 - (5) Condition of major intersections.
 - (6) Condition of bridges.
- c. Progress along route at established convoy speed to track/verify timeline.
- 3. Conduct closure procedures upon completion of road reconnaissance.
 - a. Mark the following points on the map and overlay.
 - (1) Start point.
 - (2) Release point.
 - (3) Check point.
 - (4) Critical points.
 - (5) Halt areas.
 - (6) Alternate route.
 - (7) Problem areas.
 - b. Relay route information to higher headquarters (in accordance with SOP). This should include:
 - (1) Condition of roadbed.
 - (2) Location of any halt areas.
 - (3) Condition of major intersections and bridges.
 - (4) Defiles and ambush sites.
 - (5) Report current enemy force activity along route.
 - (6) Bypass or alternate route selected.
 - c. If engineer support is available, request support to repair roadway or bridge(s) as needed.

Evaluation Preparation: Setup: Provide for the Soldier the necessary vehicles and personnel necessary to perform a route reconnaissance of a convoy route to include communications equipment and mission information.

Brief Soldier: You are required to conduct a reconnaissance of the convoy route. You are to determine all danger areas and areas that may not support the vehicle traffic from the convoy. You are to confirm any route information that is provided. Upon closure of reconnaissance you are to inform your chain of command and update any intelligence issues and request needed support that you may have identified along the route.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Conducted reconnaissance preparations.	_____	_____
2. Conducted road reconnaissance.	_____	_____
3. Conducted closure procedures upon completion of road reconnaissance.	_____	_____

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.

References

Required

FM 3-34.170
FM 55-30

Related

Prepare Platoon Operations Order (OPORD)**551-88M-3603**

Conditions: You are required to prepare an OPORD. Given the company OPORD with platoon requirements identified.

Standards: You will prepare an OPORD identifying all the necessary information needed in order to complete the mission in accordance with the company OPORD.

Performance Steps

1. Place the classification at the top and bottom of every page of the OPORD.
2. Identify change from verbal orders, if any, under classification.
3. Fill in heading with the following information:
 - a. Copy # of # copies.
 - b. Issuing headquarters.
 - c. Place of issue.
 - d. Date-time group of signature.
 - e. Message reference number.
4. Identify OPORD number/code name.
5. Identify references. List the maps, charts, datum, or other related documents the unit needs to understand the OPORD.
6. Identify time zone used throughout OPORD.
7. List Task Organization. Describe the allocation of forces to support the concept of operations. Task organization may be placed in annex A if it is long or complicated.
8. Describe the Situation to include:
 - a. Enemy Forces.
 - b. Friendly Forces.
 - c. Environment.
 - (1) Terrain.
 - (2) Weather.
 - (3) Civil Considerations.
 - d. Attachments and Detachments.
9. Add the Mission statement. A mission statement contains no subparagraphs. The mission statement covers on-order missions.

Performance Steps

10. Explain the Execution.
 - a. State the commander's intent.
 - b. Add the concept of operation.
 - (1) The concept of operations describes how the commander sees the actions of subordinate units fitting together to accomplish the mission. As a minimum, the concept of operations includes the scheme of maneuver and concept of fires.
 - (a) Maneuver: State the scheme of maneuver. Be sure this paragraph is consistent with the operation overlay.
 - (b) Fires: Describe the scheme of fires. State which unit has priority of fires. Include the purpose of, priorities for, allocation of, and restrictions for fire support.
 - c. Explain Coordinating instructions.
 - (1) Identify time or condition when a plan or an order becomes effective.
 - (2) List commander's critical information requirements.
 - (3) List risk reduction control measures that are unique to this operation and not included in unit SOPs.
 - (4) Identify Rules of engagement (ROE).
 - (5) Identify environmental considerations.
11. Address service support as needed to clarify the service support concept.
 - a. State the concept of logistics support to provide non-CSS commanders and their staffs a visualization of how the operation will be logistically supported.
 - b. Materiel and services.
 - c. Health service support.
 - d. Personnel service support.
12. Identify Command and Signal.
 - a. State the map coordinates for command post locations and at least one future location for each command post. Identify the chain of command if not addressed in unit SOPs.
 - b. List signal instructions not specified in unit SOPs. Identify the specific signal operating instructions edition in effect, required reports and formats, and times the reports are submitted.
13. Include instructions for the acknowledgement of the plan or order by addressees. The word "acknowledge" may suffice or you may refer to the message reference number. Acknowledgement of a plan or order means that it has been received and understood.
14. Include last name of individual signing OPORD.
15. List annexes by letter and title in sequence.
16. Furnish distribution copies either for action or for information. List in detail those who are to receive the order.

Evaluation Preparation: Setup: Provide for the Soldier a copy of the company OPORD.

Brief Soldier: You are a platoon sergeant and are required to construct an OPORD to support your company's mission. You must review and identify all pertinent information from the company OPORD.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Placed the classification at the top and bottom of every page of the OPORD.	—	—
2. Identified change from verbal orders, if any, under classification.	—	—
3. Filled in heading with the following information:	—	—
a. Copy # of # copies.	—	—
b. Issuing headquarters.	—	—
c. Place of issue.	—	—
d. Date-time group of signature.	—	—
e. Message reference number.	—	—
4. Identified OPORD number/code name.	—	—
5. Identified references. Listed the maps, charts, datum, or other related documents the unit needs to understand the OPORD.	—	—
6. Identified time zone used throughout OPORD.	—	—
7. Listed Task Organization. Described the allocation of forces to support the concept of operations. Task organization may be placed in annex A if it is long or complicated.	—	—
8. Described the Situation.	—	—
9. Added the Mission Statement.	—	—
10. Explained the Execution.	—	—
11. Addressed service support as needed to clarify the service support concept.	—	—
12. Identified Command and Signal.	—	—
13. Included instructions for the acknowledgement of the plan or order by addressees. The word "acknowledge" may suffice or you may refer to the message reference number. Acknowledgement of a plan or order means that it has been received and understood.	—	—
14. Included last name of individual signing OPORD.	—	—
15. Listed annexes by letter and title in sequence.	—	—
16. Furnished distribution copies either for action or for information. Listed in detail those who are to receive the order.	—	—

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.

References

Required

FM 5-0
FM 55-30

Related

Prepare Map Overlay

551-88M-3604

Conditions: Given a clear sheet of overlay material, colored markers, 1:50,000-scale military map, protractor, guidance from commander, and information from operations order (OPORD).

Standards: You will completely, legibly, and accurately constructed a map overlay and include all relevant information required.

NOTE: Figure 3-42 depicts a map graphic.

Performance Steps

1. Center the security classification at the top and bottom of the overlay.
2. Place the title in the upper left margin (below the security classification).
3. Place the map reference in the upper left margin immediately below the title.
4. Plot detail information.
5. Place at least two overlay and map reference points (double crosshair reference marks on map grid lines) on opposite corners of the overlay.
6. Prepare the overlay to the scale of the maps units will use.
7. Correctly transfer control measures onto the overlay from the OPORD.
8. Make the overlay consistent with the applicable text from the OPORD.
9. Place symbols at doctrinally correct locations.
10. Keep the overlay simple, but give enough detail for others to understand the operation and its essential tasks.
11. Limit control measures to the minimum needed to synchronize the operation and limit possible fratricide.

NOTE: Make sure control measures give the commander flexibility to react to changing situations or conditions.

12. Roll up or fold the overlay with the classification, title, and map reference visible on the outside when transmitting or storing overlays.

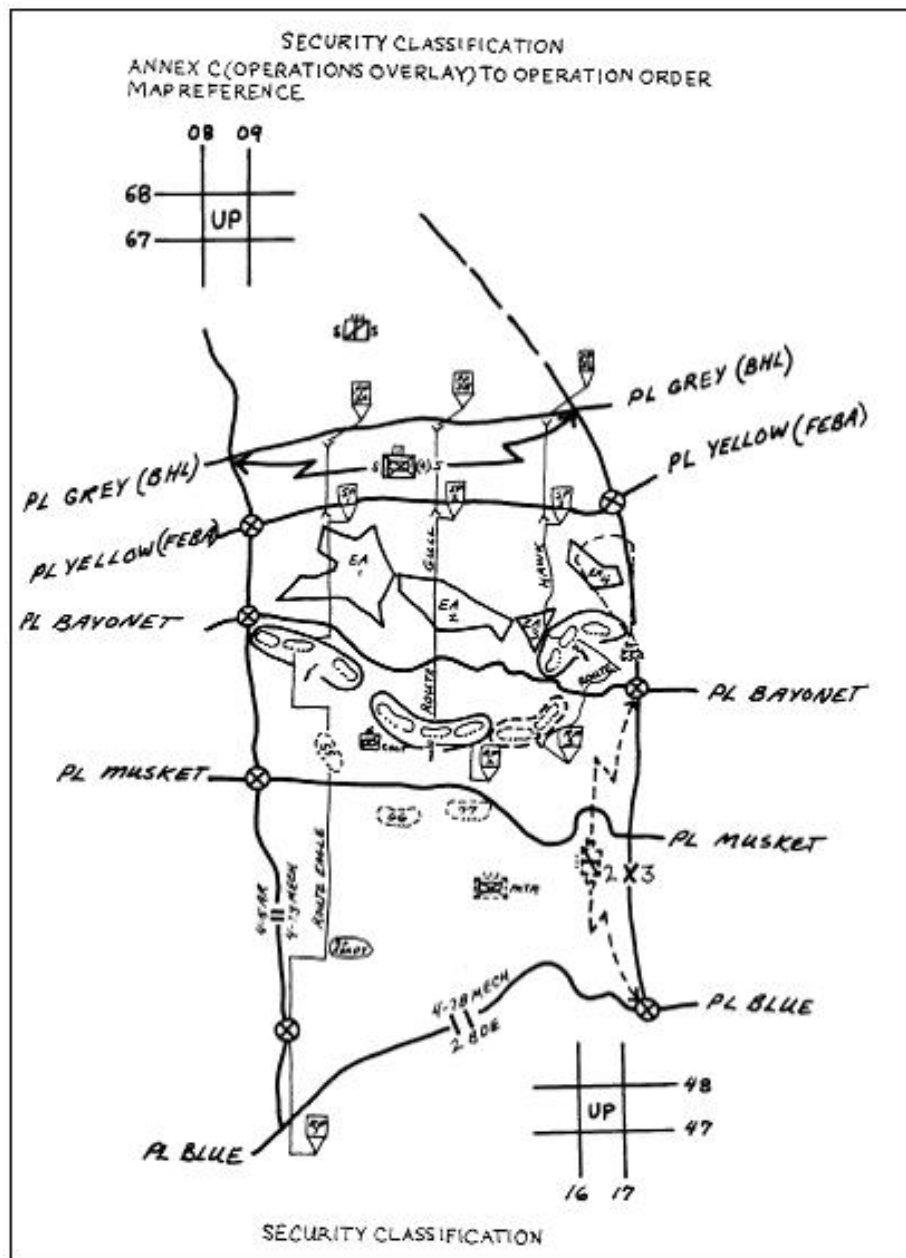


Figure 3-42. Map Graphic

Evaluation Preparation: Setup: Provide for the Soldier, mission information, grid map sheet, and guidance to produce the overlay.

Brief Soldier: You must construct a map overlay that includes all required relevant information.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Centered the security classification at the top and bottom of the overlay.	_____	_____
2. Placed the title in the upper left margin (below the security classification).	_____	_____
3. Placed the map reference in the upper left margin immediately below the title.	_____	_____
4. Plotted detail information.	_____	_____
5. Placed at least two overlay and map reference points (double crosshair reference marks on map grid lines) on opposite corners of the overlay.	_____	_____
6. Prepared the overlay to the scale of the maps units will use.	_____	_____
7. Correctly transferred control measures onto the overlay from the OPORD.	_____	_____
8. Made the overlay consistent with the applicable text from the OPORD.	_____	_____
9. Placed symbols at doctrinally correct locations.	_____	_____
10. Kept the overlay simple, but gave enough detail for others to understand the operation and its essential tasks.	_____	_____
11. Limited control measures to the minimum needed to synchronize the operation and limited possible fratricide.	_____	_____
12. Rolled up or folded the overlay with the classification, title, and map reference visible on the outside when transmitting or storing overlays.	_____	_____

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.

References

Required

FM 1-02
FM 3-25.26
FM 5-0

Related

Subject Area 14: Hazardous Cargo Transportation

Supervise Transportation of Hazardous/Sensitive Cargo**551-88M-2420**

Conditions: Given an operator and a mission-ready cargo vehicle with or without a trailer or tractor-semitrailer combination, hazardous/sensitive cargo, tiedown materials, tarpaulin, blocking and bracing materials (as needed), completed DD Form 626 (Motor Vehicle Inspection (Transporting Hazardous Materials) and DD Form 836 (Dangerous Goods Shipping Paper/Declaration and Emergency Response Information for Hazardous Materials Transported by Government Vehicles), and Soldiers to assist in loading and ground guiding as needed to transport hazardous/sensitive cargo. As part of a vehicle convoy the operator is to conceal the load from casual observation throughout the movement.

Standards: You are to supervise the vehicle operator in preparing vehicle and cargo, loading and securing the cargo to the vehicle, safely transporting to destination, unloading and ensuring proper disposition of all cargo documentation.

Performance Steps

1. Perform a Composite Risk Assessment.
 - a. Identify hazards.
 - b. Assess hazards to determine risk.
 - c. Develop controls and make risk decisions.
 - d. Implement controls.
 - e. Supervise and evaluate.
2. Supervise preparation of the vehicle to transport hazardous/sensitive cargo by ensuring the operator does the following:
 - a. For shipping hazardous materials, ensure additional vehicle inspections by shipper (DD Form 626) have been performed and deficiencies corrected (as applicable).
 - b. Position vehicle near cargo to be loaded and shutdown engine unless needed to operate onboard MHE. Set vehicle parking brakes and chock vehicle.
 - c. Clean out cargo bed to allow room for cargo to be loaded.
 - d. Tiedown materials are on hand to secure load to vehicle.
 - e. Cargo canvas and bow assembly and any required tarpaulins are available to conceal and protect the cargo during transport. If canvas is installed, remove it for loading.
 - f. If load is containerized, check to see that the semitrailer hold down devices function properly and are placed in proper configuration to receive container.
 - g. Applicable placarding materials are on hand that match the load characteristics and hazards.
 - h. If necessary, ensure all blocking and bracing materials are on hand to secure load.
 - i. No smoking within 50 feet and no open flame within 100 feet of load.
 - j. There are two 10-BC fire extinguishers are present and one is mounted on outside of cab on driver's side and the other is mounted inside cab.
 - k. Any load-specific response equipment is available such as breathing apparatus in case of hazardous chemical loads.
 - l. Prepare vehicle-mounted Material Handling Equipment for operation.

Performance Steps

3. Supervise the preparation of hazardous/sensitive cargo for movement by ensuring the operator does the following:
 - a. Shipper completes DD Form 836 and provides copy to accompany cargo.
 - b. The load is configured as applicable PRIOR to movement (courier duties if shipping classified items).

CAUTION

Classified material will be prepared for shipment, packaged, and sealed in ways that minimize the risk of accidental exposure or undetected deliberate compromise.

- (1) If the classified material is an inaccessible component of a packageable item of equipment, the outer shell or body can be considered as the inner enclosure provided it does not reveal classified information.
- (2) If the classified material is an inaccessible internal component of a bulky item of equipment, the outside or body of the item can be considered to be sufficient enclosure provided it does not reveal classified information.
- (3) If the classified material is an item or piece of equipment that isn't easily packageable and the shell of body is classified, it will be concealed with an opaque covering that will hide all classified features.
- (4) Specialized shipping containers including closed cargo transporters, can be considered the outer wrapping or cover when used.
- (5) NATO-restricted materials do not have to be double-wrapped when it is transmitted within the United States. The marking "NATO CLASSIFIED" will not appear on the outermost wrapper.
- c. Cover the classified/sensitive cargo to prevent accidental exposure or undetected deliberate compromise.
- d. Secure load to prevent access to unauthorized personnel throughout custody.

NOTE: If cargo is classified SECRET or TOP SECRET, the cargo must have an attached receipt form to be completed by the recipient and returned to the originator.

- e. Custody receipt is attached to the load.
 - f. Establish radio communications link with security team.
 - g. Adequate armed security is available and ready for movement.
 - h. If cargo is sensitive and considered dangerous, ensure proper placarding is displayed on load-carrying vehicle.
4. Supervise loading cargo onto vehicle/semitrailer by ensuring the operator does the following:
 - a. If necessary, manipulate MHE into position, lift and place cargo onto vehicle/trailer/semitrailer with heavier items on bottom.
 - b. Secure all cargo items with tiedown devices ensuring no damage to containers.
 - c. Cover the dangerous/sensitive cargo to prevent unauthorized deliberate compromise or casual observation.

NOTE: If cargo is classified SECRET or TOP SECRET, the cargo must have an attached receipt form to be completed by the recipient and returned to the originator.

- d. Custody receipt is attached to the load.
- e. Establish radio communications link with security team (as applicable).

Performance Steps

5. Supervise operator conducting movement with classified/sensitive cargo.
 - a. Notify security personnel of start of movement.
 - b. Follow designated route to destination.
 - c. Notify chain-of-command as each route checkpoint is passed.
 - d. Maintain positive control of classified/sensitive cargo throughout movement.
 - e. Allow no unauthorized person(s) visual or physical access to cargo during movement.
 - f. Upon reaching destination, relinquish custody of classified/sensitive cargo to authorized personnel with proper identification.
 - g. Obtain authorized signature from recipient on custody receipt (if cargo is classified as SECRET or TOP SECRET).
 - h. Upon return to origin, ensure custody receipt is given to originator (if cargo is classified SECRET or TOP SECRET).
 - i. Transfer DD Form 836 to recipient of cargo (as applicable).

Evaluation Preparation: Setup: Provide everything stated in conditions statement.

Brief Soldier: You are required to supervise an operator assuming custody of a hazardous/sensitive shipment of cargo. You are to supervise the loading, concealing, and transporting the cargo while maintaining security at all times. At no time will the operator allow any unauthorized person(s) access to cargo while in their possession. Supervise the transfer of custody to the designated person authorized receipt of property.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Performed a Composite Risk Assessment.	—	—
2. Supervised preparation of vehicle to transport hazardous/sensitive cargo.		
3. Supervised preparation of hazardous/sensitive cargo for shipment.	—	—
4. Supervised loading cargo onto/into vehicle/trailer/semitrailer for movement	—	—
5. Supervised the movement with hazardous/sensitive cargo.	—	—

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.

References

Required

DD FORM 626
DD FORM 836

Related

AR 190-11
AR 380-5
DA PAM 385-64
FM 21-305
FM 55-30
TM 9-2320-366-10-1
TM 9-2320-366-10-2
TM 9-2330-359-14&P

Manage Transportation of Hazardous/Sensitive Cargo
551-88M-3700

Conditions: Given military or commercial transportation assets, equipment, documentation, Code of Federal Regulation (CFR) 49, Air Force Regulation (AFR) 71-4, Department of Defense (DD) Form 626, and other applicable regulations for cargo being shipped.

Standards: You will ensure the shipment is in compliance with government, state and local laws, regulations, and policies.

Performance Steps

1. Review documentation to determine the amount of hazardous, classified, and sensitive cargo due into the unit.
2. Ensure security facilities and procedures are adequate for the volume of cargo and type of cargo.
3. Ensure personnel are properly trained/certified to handle or transport specific cargo.
4. Ensure that personnel handle and stow cargo in accordance with CFR 49 and local directives to prevent spillage, breakage, and shifting of cargo.
5. Adhere to cargo compatibility rules identified in CFR 49.
6. Ensure hazardous cargo containers are not damaged or leaking.
7. Ensure that shipper inspects vehicles using DD Form 626 before vehicles are loaded or unloaded.
8. Brief drivers and operators on safety requirements and emergency procedures for hazardous, classified, and sensitive cargo. Use DD Form 836.
9. Maintain accountability of all cargo through frequent checks of documentation and cargo seals.
10. Establish follow-up procedures (for example, verify signature on tally record or cargo manifest) to ensure the proper consignee receives the cargo.
11. Report any security violations such as theft or loss during the transport of classified and sensitive cargo to the command security manager.
12. Select appropriate transportation plan in accordance with AR 380-5 to protect classified and sensitive material.

Performance Measures

	<u>GO</u>	<u>NO-GO</u>
1. Reviewed documentation to determine the amount of hazardous, classified, and sensitive cargo due into the unit.	—	—
2. Ensured security facilities and procedures are adequate for the volume of cargo and type of cargo.	—	—
3. Ensured personnel are properly trained/certified to handle or transport specific cargo.	—	—
4. Ensured that personnel handled and stowed cargo in accordance with CFR 49 and local directives to prevent spillage, breakage, and shifting of cargo.	—	—

Performance Measures	<u>GO</u>	<u>NO-GO</u>
5. Adhered to cargo compatibility rules identified in CFR 49.	—	—
6. Ensured hazardous cargo containers were not damaged or leaking.	—	—
7. Ensured that shipper inspects vehicles using DD Form 626 before vehicles were loaded or unloaded.	—	—
8. Briefed drivers and operators on safety requirements and emergency procedures for hazardous, classified, and sensitive cargo. Used DD Form 836.	—	—
9. Maintained accountability of all cargo through frequent checks of documentation and cargo seals.	—	—
10. Established follow-up procedures (for example, verify signature on tally record or cargo manifest) to ensure the proper consignee received the cargo.	—	—
11. Reported any security violations such as theft or loss during the transport of classified and sensitive cargo to the command security manager.	—	—
12. Selected appropriate transportation plan in accordance with AR 380-5 to protect classified and sensitive material.	—	—

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.

References

Required

AR 380-5
 CFR 49
 DD FORM 626
 DD FORM 836
 DOD 4500.9-R, PART III
 FM 55-17
 FM 55-30
 FM 55-60

Related

Skill Level 4

Subject Area 10: Motor Pool Management

Manage Preventive Maintenance Checks and Services**551-88M-4322**

Conditions: You are assigned duties as a platoon sergeant. You are given platoon assets consisting of Soldiers and vehicles assigned to your platoon. You are also provided with all technical manuals (TMs) issued for each vehicle, basic issue items (BII), lubricants, access to company maintenance personnel and maintenance facilities, maintenance worksheets, and maintenance records. Some replacement parts are available.

Standards: You must manage the performance of preventive maintenance checks and services of your platoon vehicles. You will provide proper instructions to your squad leaders in the performance of their roles during the vehicle inspection process. During the conduct of platoon preventive maintenance checks and services, your platoon, under your guidance, will identify all deficiencies according to each TM and make corrections on the spot or record the deficiency properly on the maintenance inspection worksheet. All forms will be completed properly. Replacement parts are either available and replaced or properly placed on order through the company maintenance section. Scheduled services are identified and applicable vehicle(s) and operator(s) report to company maintenance section to complete the service under the guidance of company maintenance section personnel.

Performance Steps

1. Ensure squad leaders have made preparations to perform maintenance inspections.
 - a. Vehicles are positioned as to enable a 360-degree walk around, with wheel chocks in place.
 - b. Drip pans are positioned under vehicles (if available).
 - c. Technical manuals, tools, and inspection forms are present.
 - d. Squad leaders are present and actively involved and have current status of vehicles during preparation.
 - e. Squad leaders acquire any available replacement parts that can be installed by the operator.
2. Ensure squad leaders supervise the performance of before, during, after, weekly, or monthly operational preventive maintenance checks.
 - a. Squad leaders are present and actively involved in the maintenance inspection process.
 - b. Squad leaders report any needed urgent repairs.
 - c. Squad leaders check with maintenance section for any replacement parts.
 - d. Squad leaders mentor their subordinates in correct inspection procedure and criteria.
 - e. Squad leaders and their subordinates adhere to all safety and environmental restrictions, according to unit standing operating procedure (SOP), regarding no smoking areas, oil and lubricant disposal, and refueling.
 - f. Squad leaders and vehicle drivers adhere to all WARNING and CAUTION statements covered in the applicable vehicle TMs within the maintenance inspection tables.
 - g. Squad leaders check all vehicle operator inspection worksheets for proper completion.
3. Conduct random vehicle inspections to ensure operators are performing proper maintenance checks.
 - a. Check operator maintenance worksheet for entries and verify upon check of vehicle.
 - b. Check to ensure that all inspections are performed according to intervals in the TM.
 - c. Inform squad leader of any discrepancies found and direct corrections to be made.

Performance Steps

4. Coordinate with maintenance section for necessary maintenance support beyond operator capability.
 - a. Provide maintenance section with status of vehicles needing repairs.
 - b. Schedule appropriate time for vehicle repairs according to maintenance section availability.
 - c. Ensure vehicle(s) and operator(s) are available to report, at allotted time, to maintenance section.
 - d. Ensure replacement parts are properly installed on vehicle.
5. Coordinate with other platoon sergeants for maintenance support (as necessary).
 - a. Identify need for additional personnel support to perform maintenance on your platoon vehicles.
 - b. Identify need for additional personnel requested by other platoons for maintenance assistance.
6. Ensure squad leaders have accounted for all maintenance worksheets, upon completion of maintenance checks, for each vehicle inspected.
 - a. Squad leaders check validity of entries on maintenance worksheets.
 - b. Ensure a signature is entered as appropriate, if so stated in unit SOP, in the "Maintenance Supervisor" (block 9a, DA Form 2404 [Equipment Inspection and Maintenance Worksheet]) or Operator's Supervisor" signature block on DA Form 5988-E (Equipment Inspection Maintenance Worksheet).
 - c. Ensure all parts on order have been properly logged into Unit Level Logistics System (ULLS) on the applicable vehicle's DA Form 5988-E or annotated on DA Form 2408-14 (Uncorrected Fault Record) by unit maintenance section for each vehicle.
 - d. Inspection worksheet is turned in to unit maintenance section if faults are found and recorded for future correction.
7. Ensure all vehicles and equipment are secured upon completion of maintenance checks.
 - a. Squad leaders account for all vehicles BII and other tools and ensure all tools are stowed properly.
 - b. Squad leaders ensure their vehicles with drivers report to maintenance section for repairs as necessary.
 - c. Squad leaders ensure security of all vehicles.
 - d. Squad leaders report their squad operational status.
8. Ensure that scheduled vehicle services are conducted.
 - a. Coordinate with maintenance section for scheduled times for services.
 - b. Ensure squad leaders prepare the vehicle and operator for reporting for services.
 - (1) Daily preventive maintenance checks and services (PMCS) must be completed and all faults corrected or parts ordered.
 - (2) Vehicle must be clean to include undercarriage.
 - (3) Inspection worksheets must be completed and available to maintenance section.
 - (4) Any additional requirements identified in maintenance SOP.
 - c. Conduct follow-up checks with maintenance section to ensure service completion with minimal delay.
 - d. Ensure squad leader and/or vehicle operator remains present during service according to SOP guidelines.
 - e. Have squad leader report vehicle status at completion of service.

Performance Steps

9. Report platoon vehicle status to platoon leader and/or maintenance section sergeant/company truckmaster.
 - a. Number of vehicles fully mission capable by bumper number.
 - b. Number of vehicles in service or due service.
 - c. Number of vehicles that are non-mission capable.

Evaluation Preparation: Setup: Provide for the Soldier an established company-level motor pool to include organic assets. This will include vehicle, company personnel (consisting of supervisors, vehicle operators, and assistant operators), maintenance section, mission information, equipment records, driver records, parts stockage listing, and maintenance forms.

Brief Soldier: You are to manage a preventive maintenance program at the company level. Your responsibilities include spot checking records, spot checking vehicles, receiving feedback from supervisors, providing guidance to supervisors and operators, and referring and complying with locally established guidance (SOP).

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Ensured squad leaders had made preparations to perform maintenance inspections.	—	—
2. Ensured squad leaders supervised the performance of before, during and after, weekly, or monthly operational preventive maintenance checks.	—	—
3. Conducted random vehicle inspections to ensure operators are performing thorough maintenance checks.	—	—
4. Coordinated with maintenance section for necessary maintenance support beyond operator capability.	—	—
5. Coordinated with other platoon sergeants for maintenance support (as necessary).	—	—
6. Ensured squad leaders have accounted for all maintenance worksheets, upon completion of maintenance checks, for each vehicle inspected.	—	—
7. Ensured all vehicles and equipment are secured upon completion of maintenance checks.	—	—
8. Ensured that scheduled vehicle services are conducted.	—	—
9. Reported platoon vehicle status to platoon leader and/or maintenance section sergeant/company truckmaster.	—	—

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.

References**Required**

DA FORM 2404

DA FORM 2408-14

DA FORM 5988-E

DA PAM 750-8

FM 21-305

FM 55-30

Related

Manage Motor Pool Operations

551-88M-4323

Conditions: You have been assigned duties as the company truckmaster. Your unit has established a tactical motor pool site for mission support. You are provided with company assets consisting of unit vehicles, assigned operators, support from company platoon sergeants and their platoons, and company maintenance section. Facilities have been erected to support motor pool operations. Communication has been established between company headquarters and the motor pool. Mission commitments and perimeter defense plans are provided.

Standards: You have managed motor pool operations to facilitate mission support. Your maintenance and dispatch operations were effective and you have accurately accounted for vehicle movement and accountability and mission readiness. All necessary vehicle status reporting has been according to regulation and unit standing operating procedure (SOP). Perimeter security has been enforced.

Performance Steps

1. Enforce safety and environmental guidelines.
 - a. Ensure safety precautions are implemented and understood.
 - (1) During preventive maintenance.
 - (2) During refueling operations.
 - (3) During vehicle movement within the motor pool.
 - (4) Ensure adherence to establish no smoking areas.
 - b. Spot-check locations around motor pool to ensure platoons are complying with established safety rules while working in and around vehicles or equipment.
 - c. Ensure every effort is made to reduce or eliminate damage to environment.
 - (1) Ensure that all petroleum, oils, and lubricants (POL) products are stored in designated storage areas.
 - (2) Ensure that spillage is recovered immediately.
 - d. If so stated in unit SOP, ensure that drip pans are placed under vehicles when parked.
 - e. Enforce the use of ground guides in motor pool.
 - f. Enforce the speed limits.
2. Enforce occupation and traffic plans for motor pool operations.
 - a. Coordinate with platoons to ensure that traffic plan is adhered to.
 - b. Designate entry and exit points.
 - c. Designate emergency exits and guidelines for using them.
3. Coordinate for mission support.
 - a. With platoon leaders and platoon sergeants for available vehicles.
 - b. With platoon leaders and platoon sergeants for available vehicle operators.
 - c. With maintenance sergeant for status of vehicles due maintenance or service.
4. Oversee dispatching and commitment of company vehicles.
 - a. Match available company assets to commitment requirements.
 - (1) Determine vehicle load requirements.
 - (2) Formulate each commitment into convoy movement plans as appropriate.
 - b. Ensure that platoons load and secure all cargo that is to be moved from motor pool on commitment (applicable).
 - c. Ensure that all personnel involved in each commitment are briefed on requirements.
 - d. Ensure convoy leaders are briefed and have convoy route information as well as latest threat information.

Performance Steps

- e. If road clearances are required, coordinate with company headquarters for clearance in advance of the need. This applies to route restrictions as well as oversized loads.
- f. Inform company commander of vehicle status on a daily basis or as often as SOP dictates.
5. Enforce preventive maintenance procedures.
 - a. Ensure all inspection worksheets are available, completed properly, and turned in to maintenance section (if necessary) at completion of maintenance inspection.
 - b. Check driver maintenance through platoon sergeants or squad leaders.
 - c. Check with maintenance sergeant for the repair of vehicles requiring services beyond driver's ability.
6. Enforce security and defense procedures.
 - a. Movement security.
 - (1) Ensure that loads, including classified loads, are provided security prior to departure.
 - (2) Coordinate with platoons for personnel to provide convoy security.
 - (3) Coordinate with company headquarters for security support.
 - b. Perimeter security. Coordinate with platoons for personnel to occupy defensive positions.
 - c. Review company SOP to ensure that provisions are present to man and secure motor pool area during normal operations and during enemy attack.
 - d. Maintain communications and communications security (COMSEC) with company headquarters and between vehicles on commitment and motor pool operations.
 - e. Ensure cover and concealment techniques are maximized.
 - (1) Cover glass and mirrors.
 - (2) Use camouflage screen and support systems.
 - (3) Enforce use of local vegetation and existing natural cover whenever possible.
 - (4) Disperse vehicles and platoons as much as possible and still maintain security.

Evaluation Preparation: Setup: Provide for the Soldier an established operational company level motor pool to include all organic equipment and personnel. You are to assume management responsibilities over all operations.

Brief Soldier: You are to assume management responsibilities over the motor pool operations. You are to track and troubleshoot all aspect of the operation. You are to ensure that company missions are always supported through a smooth flow of mission information dissemination and guidance. Commitments will not be adversely affected by your performance.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Enforced safety and environmental guidelines.	—	—
2. Enforced occupation and traffic plans for motor pool operations.	—	—
3. Coordinated for mission support.	—	—
4. Oversight dispatching and commitment of company vehicles.	—	—
5. Enforced preventive maintenance procedures.	—	—
6. Enforced security and defense procedures.	—	—

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.

References**Required**

DA PAM 750-8

FM 21-305

FM 55-30

Related

Manage Tactical Automation Systems

551-88M-4402

Conditions: In an operational environment, you have access to Tactical Automation Systems (Force XXI Battle Command System Brigade and Below [FBCB2] and Battle Command Sustainment and Support System [BCS3]) and references needed to complete your mission.

Standards: You have set up and performed basic functions on the given Tactical Automation Systems to complete the assigned mission without damaging the Tactical Automation Systems.

Performance Steps

1. Employ the Movement Tracking System (MTS).
 - a. Conduct V2 configuration power on procedures.
 - b. Start MTS Messenger.
 - c. Read messages.
 - d. Send messages.
 - e. Start TracerLink program.
 - f. Perform power off procedures.
2. Perform basic operations with FBCB2.
 - a. Identify battle command operations main screen.
 - b. Employ map functions.
 - c. Employ administrative functions.
 - d. Perform message management.
 - e. Prepare/send combat messages.
 - f. Employ application functions.
 - g. Employ overlay functions.
3. Employ FBCB2.
 - a. Perform before-operation preventive maintenance checks and services (PMCS).
 - b. Perform start-up procedures.
 - c. Perform shut-down procedures.
 - d. Perform after-operation PMCS.
4. Identify BCS3 Capabilities.
 - a. Providing a robust opportunity to standardize or create a Common Operating Picture (COP), in support of logistical operations.
 - b. Provides a flexible logistics reporting process that includes bottom up and top down input capabilities as well as a web service interface to forecast logistic on the battlefield.
 - c. Provides an extensive convoy operations support package that may include managing networks, convoy movement request, convoy tracking, and proximity alerts.
 - d. Provides the capabilities to support a commodity management, using myriad of source interfaces, such as Logistics Support Agency (LOGSA), LIW (Logistic Information Warehouse), MTS, Defense Transportation Reporting and Control System (D-TRACS) (In-Transit Visibility [ITV] Servers), and Property Book Unit Supply Enhanced (PBUSE).
 - e. BCS3 offers a very good command and control tool that can really assist in any Reception, Staging, Onward Movement, and Integration (RSOI) mission.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Employed the Movement Tracking System (MTS).	_____	_____
2. Performed basic operations with FBCB2.	_____	_____
3. Employed Force XXI Battle Command System Brigade and Below (FBCB2).	_____	_____
4. Identified BCS3 Capabilities.	_____	_____

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.

References**Required**

BCS3 SYS ADMIN

BCS3 USER

MTS PLUS EUM REV B

Related

Manage Logistical Support for a Unit

551-88M-4406

Conditions: As a truckmaster or operations sergeant given the requirement to manage logistical support for combat operations. Given the higher headquarters operation order, commander's guidance, and a higher headquarters logistics support plan.

Standards: You have managed Logistical Support for Combat Operations in accordance with FM 5-0 and FM 10-27.

Performance Steps

1. Identify support requirements.
 - a. Review appropriate documents to identify requirements including local SOPs, OPORDs, and others.
 - b. Determine information, such as type and number of supported units and type and number of supported equipment.
 - c. If available, also review battle damage assessment and repair (BDAR) and MCSR.

2. Identify available resources.

NOTE: Identify the resources on hand and the resources already committed after support requirements have been determined.

- a. Other assets to consider include operational readiness float (ORF), facilities, location of maintenance support teams (MSTs), unit maintenance collection points (UMCPs), maintenance collection points (MCPs), and recovery/evacuation capabilities.
- b. Assets to consider include personnel; parts; tools; test, measurement, and diagnostic equipment (TMDE); publications; and transport capabilities.

3. Identify other considerations.

NOTE: Other intangibles must be considered when managing support including command priorities, environmental impact, maintenance workload, exchange/cannibalization policy, weather/terrain conditions, security, safety, certifications/training, tactical situation, and operating/operations tempo (OPTEMPO).

4. Allocate resources.

NOTE: Allocate and organize resources to provide needed support after considering all requirements, resources, and other considerations.

Performance Measures

	<u>GO</u>	<u>NO-GO</u>
1. Identified support requirements.	_____	_____
2. Identified available resources.	_____	_____
3. Identified other considerations.	_____	_____
4. Allocated resources.	_____	_____

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.

References

Required
 FM 5-0
 FM 10-27
 LOCAL SOP

Related
 AR 750-1

Subject Area 11: Convoy Planning and Operation

**Coordinate External Support Requirements for a Truck Battalion OPLAN/OPORD
551-88M-4333**

Conditions: You will coordinate support requirements for your unit based on the truck battalion operations plan/operations order (OPLAN/OPORD). Given the necessary information on what type of support is needed and a pen or pencil. Given the higher headquarters operation order and commander's guidance.

Standards: You have coordinated support by correctly requesting the type of support needed to accomplish the mission.

Performance Steps

1. Review higher headquarters OPORD and commander's guidance.
 - a. Review the situation, mission, situation and concept of operations to determine support requirements for the operation.
 - b. Determine date and time the support is needed.
 - c. Determine location where the support is needed.
 - d. Determine type of support required.
 - e. Review enemy and friendly forces paragraph.
2. Ensure that requested support is adequate to meet the needs of the mission.
3. Follow up on the request to ensure support is available.
4. Incorporate support needed into the OPLAN/OPORD.

Evaluation Preparation: Setup: Provide for the Soldier OPORD information, external support request forms (locally produced), and requirements for support elements.

Brief Soldier: You are required to determine the external support requirements for a truck battalion OPORD/OPLAN. You must review the OPORD information and solicit command guidance on the need for external support. You must then submit for approval, your requirements as part of the battalion's OPORD for approval/corrections.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Reviewed OPORD and commander's guidance to determine support requirements.	_____	_____
2. Ensured that requested support is adequate.	_____	_____
3. Followed up on the request to ensure support is available.	_____	_____
4. Incorporated support needed into the OPLAN/OPORD.	_____	_____

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.

References

Required
AR 25-50

Related
FM 5-0

Subject Area 12: Motor Transport Management

Manage Driver Training Program**551-88M-4320**

Conditions: You have been reassigned as noncommissioned officer in charge (NCOIC) of an established battalion driver-training program. Given an established driver training course of instruction, instructor and examiner cadre, driver candidates, driving record documentation for each candidate, qualification records for cadre, driver training area complete with organic vehicles used for training, and complete facilities for classroom instruction and ranges.

Special Conditions: Certified in writing by commander as an instructor. Qualified to operate, without restrictions, on all the vehicles used in training. Appointed by commander to train or instruct.

Standards: You will managed the driver-training program and ensure instructors and examiners are fully qualified and certified to teach and test driver candidates. You will conduct proper coordination with company truckmasters for driver candidates. You will ensure that all driver candidates are fully qualified to start the driver training by appropriate interview process and selection. You will ensure that issuance of driver's licenses are in accordance with AR 600-55 and that all driver candidates that fail driver training or are not qualified to start training are counseled.

Performance Steps

1. Ensure all driver training cadre are fully qualified and certified by the commander to train or instruct.
 - a. All instructors and assistant instructors must be qualified and licensed to operate vehicles/equipment used in training.
 - b. All instructors and assistant instructors are appointed in writing by commander to train or instruct on an authorized type of vehicle.
 - c. Test examiners must be qualified in proper driving techniques and completely impartial in all examination procedures.
 - d. Instructors have appropriate instructor experience.
 - e. Instructors have adequate technical knowledge.
 - f. Instructors have the personality and desire to instruct.
2. Ensure that DA Form 348 (Equipment Operator's Qualification Record (Except Aircraft) or DA Form 5984-E (Operator's Permit Record) (automated) is completed properly and legibly for each driver or driver candidate (if duties as assigned).
 - a. Review all driving records on file annually for:
 - (1) Safety awards.
 - (2) Expiration of permits.
 - (3) Accidents and moving traffic violations.
 - (4) Remedial, required, or refresher training.
 - (5) Reexamination.
 - (6) License suspension.
 - b. Issue new DA Form 348 or DA Form 5984-E (automated) when individual is first examined.
 - c. All DA Forms 348 are original (cannot be photocopied).

Performance Steps

- d. When individuals are transferred or released from regular driver or operator duties, ensure all the following information has been properly posted on DA Form 348 or DA Form 5984-E (automated):
 - (1) Information on official qualifications.
 - (2) Background and experience.
 - (3) Examination findings.
 - (4) Performance record.
 - (5) Driver or operator awards.
3. Ensure preparations are made for driver training and testing.
 - a. Coordinate with company truckmasters/first sergeants for driver candidates.
 - b. Instructors interview all driver candidates (if duties include as assigned) should consider the following areas (in accordance with AR 600-55, paragraph 5-1, subparagraph c).
 - (1) Maturity.
 - (2) Attitude.
 - (3) Past driving record.
 - (4) Hearing.
 - (5) Extreme nervousness.
 - (6) Any abnormal characteristics.
 - (7) Medication, if used on regular basis.
 - c. Cadre check with appropriate medical personnel regarding doubts or concerns about medications that are taken by driver candidates on a regular basis.
 - d. Ensure individual possesses a valid state driver's license, if candidate is to operate vehicle off-post and that will not expire prior to completion of training.
 - e. Instructors counsel those driver candidates that fail interview process.
 - f. Instructors, assistant instructors, and other cadre prepare all facilities, equipment, training materials, vehicles, ranges, and testing area prior to start of training.
 - (1) Facilities. Classrooms for training and testing, driving ranges and maneuver stations, motor park for storage of vehicles and preventive maintenance, and maintenance shop are ready and will support training load.
 - (2) Training materials. Ensure all training materials to include lesson plans, slide material, applicable training circulars (TC), Army regulations (AR), Field Manuals (FM), Technical Manuals (TM) or student handouts are up to date, and structured to contain lesson Terminal Learning Objectives (TLOs) that are relevant, understandable, and obtainable.
 - (3) Testing materials. All copies are legible and accounted for and custody of examination materials are controlled to prevent unauthorized access or loss. Storage of all exam materials must be in accordance with AR 611-5.
 - (4) Training aids. All training aids are present and in good working condition (as applicable).
 - (5) Personnel. All driver training cadre (instructors/assistant instructors/examiners/other support personnel) duties are assigned and personnel have a clear understanding of their duties and are ready for training.
4. Ensure driver candidates, prior to issuance of OF Form 346 (U.S. Government Motor Vehicle Operator's Identification Card) or DA Form 5984-E (automated) (learners permit), receive instruction and evaluation in the following areas:
 - a. Ensure that each subject lesson has a task, condition, and standard that complies with AR 600-55 and the applicable training circular for the vehicle is being used for training.
 - b. Vehicle or equipment orientation.

Performance Steps

- c. Safety briefing to include driver attitude.
- d. Local laws and road conditions.
- e. Emergency procedures.
- f. Physical evaluation measures.

5. Ensure that drivers receive instruction on hazardous material (HAZMAT) (as required).

NOTE: At a minimum, military vehicle operators must receive training in the following areas.

- a. Definition of hazardous materials.
 - b. Placarding requirements.
 - c. Handling (loading and unloading) hazardous materials.
 - d. Regulations and procedures pertaining to transporting hazardous materials.
 - e. Operation of emergency equipment to include fire extinguishers.
 - f. Forms and records (includes accident reporting).
 - g. Blocking and bracing.
 - h. Emergency response procedures (for example, spillage).
 - i. Vehicle parking rules.
 - j. Route selection.
 - k. Host nation requirements (if applicable).
6. Ensure proper issue of learner's permits.
- a. Verify that all candidates have received required training prior to issue.
 - b. Verify candidate information is correct on OF Form 346 or DA Form 5984-E learner's permit.
 - c. Verify presence of commander's signature on OF Form 346 or DA Form 5984-E.
 - d. Annotate ledger with (as issuing authority):
 - (1) Date of issue.
 - (2) Expiration date.
 - (3) Permit number (first letter of the last name and last four digits of social security number [SSN] of licensee).
 - (4) Name and SSN of licensee.
 - (5) Type of equipment qualified to operate.
 - (6) Remarks.
 - (7) If automated, will include all information stated above.
7. Ensure continuation of driver training in the following areas:
- a. Publications and blank forms.
 - b. Vehicle inspection and preventive maintenance check and services.
 - c. Accident avoidance.
 - d. Military convoy operations to include night driving.
 - e. Off-road operations.
 - f. Self-recovery methods.
 - g. Operation of vehicle at driving range as set up by local commands.
8. Ensure driver testing is conducted in the following areas:
- a. Written examination - Candidate must pass to continue with testing.
 - b. PMCS examination - Candidate must pass to continue with testing.
 - c. Road test - Candidate must pass.
 - d. Maintain custody of examination materials in accordance with AR 611-5, Chapter 2.

Performance Steps

9. Ensure conduct of remedial driver training.
 - a. For drivers of at-halt accidents.
 - b. Traffic violations.
 - c. Misuse of vehicle.
 - d. Other demonstrated need for additional training.

Evaluation Preparation: Setup: This will involve the use of existing facilities in which the Soldier will assume responsibilities of driver training management. It will also consist of a motor pool to include driver records, vehicles, and drivers.

Brief Soldier: You are required to assume the managerial responsibilities of a driver's training program. You are to review driver records, conduct driver interviews, or direct that supervisor's conduct driver interviews, interview and select driver training instructors, and manage the conduct of the driver training program. You are also to provide feedback and guidance to the commander on corrections/suggestions made based on your observations. All managerial aspects of the program must be integrated into the local SOP for sustainment of a driver base for mission support.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Ensured all driver training cadre were fully qualified and certified by the commander to train or instruct.	—	—
2. Ensured that DA Dorm 348 or DA Form 5984-E was completed properly and legibly for each driver candidate.	—	—
3. Ensured preparations were made for driver training and testing.	—	—
4. Ensured driver candidates, prior to issuance of OF 346 or DA Form 5984-E (automated) (learners permit), received instruction and evaluation in the following areas:	—	—
5. Ensured that drivers received instruction on HAZMAT (as required).	—	—
6. Ensured proper issue of learner's permits.	—	—
7. Ensured continuation of driver training in the following areas:	—	—
8. Ensured driver testing was conducted in the following areas:	—	—
9. Ensured conduct of remedial driver training.	—	—

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.

References**Required**

AR 385-10
AR 600-55
AR 611-5
DA FORM 348
DA FORM 2404
DA FORM 2408-14
DA FORM 5984-E
FM 21-305
FM 55-30
OF FORM 346
TC 21-305-1
TC 21-305-10
TC 21-305-11
TC 21-305-2
TC 21-305-3
TC 21-305-4
TC 21-305-5
TC 21-305-6
TC 21-305-7
TC 21-305-8
TC 21-305-9

Related

Establish Motor Transport Safety Program

551-88M-4325

Conditions: Given available and existing safety guidelines and references the truckmaster will create a motor safety transport program in a tactical environment during day and night conditions to prepare Soldiers for a variety of environments, situations, and obstacles (including fire, convoy operations, and adverse environmental conditions).

Standards: You must review available and existing safety guidelines to determine what (if any) changes need to be made. You will provide guidance on fire prevention, vehicle operations, general safety, security, environmental protection (adverse conditions), asphyxiation, transport of hazardous material, convoy operations, personnel movement, and risk management based on accident reports, Army regulations, driver proficiency, and suggested areas. You will submit recommendations to unit commander for approval.

Performance Steps

1. Review available and existing safety guidelines.
 - a. Existing local company and battalion standing operating procedure (SOP).
 - b. Applicable regulations including AR 385-10 and FM 55-30.
2. Suggest changes to safety guidelines and operations based on:
 - a. Accident Reports.
 - b. Army regulations.
 - c. Driver proficiency/evaluation reports.
 - d. Provide guidance on:
 - (1) Fire Prevention.
 - (a) Permit smoking only in designated areas.
 - (b) Never permit smoking within 50 feet of vehicles or stored flammables or within applicable ammunition guidelines.
 - (c) Never use gasoline as a cleaning solution.
 - (d) Train personnel to properly use fire extinguishers.
 - (e) Vehicles transporting explosives will be equipped with two fire extinguishers that are appropriate for the type of explosive being transported.
 - (f) No smoking while operating any government vehicle.
 - (g) Refueling vehicles will be properly grounded when parked, and grounded and bonded when refueling.
 - (h) All refueling vehicles will have the fire extinguisher un-mounted and at point of use during refueling operations.
 - (2) Vehicle Operations.
 - (a) Use ground guides whenever a vehicle is being moved in the motor pool or company operational location.
 - (b) Use two ground guides when backing a vehicle.
 - (c) Ground guides and vehicle operators must be visible to each other at all times. The front ground guide must be visible to the driver at all times.
 - (d) Ground guides must know the proper hand and arm signals.
 - (e) Ground guides must never stand between a moving vehicle and a stationary object.
 - (f) When ground guiding at night, guide will have a clearly observable flashlight or chemical light that can be seen by vehicle operator (when tactically permitted). When direct line of sight is broken, driver will halt vehicle immediately.

Performance Steps

- (g) Do not leave vehicles unattended with the engine running.
 - (h) Make no mention of tracked vehicles. Placement of personnel during transport with respect to cargo loads will be reflective of Unit Commanders guidance, and army regulations.
 - (i) Use personnel safety straps when transporting personnel in vehicle cargo beds.
 - (j) Personnel will only be transported in vehicles equipped with fixed troop seating in the cargo area.
 - (k) Use seat belts when the vehicle is so equipped.
 - (l) Only properly licensed drivers will start and operate vehicles.
 - (m) Drivers will not be assigned to drive for more than 10 continuous hours, nor will the combined duty period exceed 12 hours in any 24-hour period without at least 8 consecutive hours of rest.
 - (n) If more than 10 hours are needed to complete operations, a qualified assistant driver must be assigned to each vehicle.
 - (o) Drivers will take 15-minute rest breaks every 2 to 3 hours of driving or every 100 to 150 miles, whichever occurs first.
 - (p) With the exception of hearing protection, the use of headphones or earphones while driving Army motor vehicles is prohibited.
 - (q) All vehicle or equipment operators will strictly adhere to ALL WARNING and CAUTION statement in the respective technical manual (TM).
- (3) General Safety.
- (a) Do not permit horseplay.
 - (b) Use hearing protection in areas with high noise levels.
 - (c) Secure loose parts, tools and loads before vehicle movement.
- (4) Security.
- (a) Harden vehicles with at least double interlocking layer of sandbags (there are additional hardening measures listed in FM 21-305) Hardening of vehicle also depends on availability of materials and type of vehicles used.
 - (b) Camouflage and concealment will be maximized when vehicle(s) are parked in company areas (tactical).
 - (c) All vehicle shiny areas such as mirrors, windows will be covered when vehicle is parked for extended periods (tactical).
 - (d) All sensitive items will be accounted for by platoon leadership before and after all missions. Platoons will designate location and person accountable for ensuring proper security. Missing sensitive items will be reported to Chain-of-Command IMMEDIATELY.
 - (e) All platoons will occupy perimeter defensive locations upon occupation of platoon-designated areas within the company operational area (tactical).
 - (f) All platoons will report to company operations upon return to company area.
 - (g) Spacing and arrangement of parked vehicles will provide ready access and fire lanes.
- (5) Environmental Protection (Adverse Environmental/Terrain Conditions).
- (a) Turn in used or contaminated petroleum, oils, and lubricants (POL) products through the maintenance section/designated disposal point.
 - (b) Keep the entire area highly policed.
 - (c) Protect waste oil storage from contamination and entry into local water source.

Performance Steps

- (d) Ensure that vehicles are equipped and maintained (good tires, lights, wipers, and chains) to cope with potential adverse conditions.
- (e) Ensure that drivers know and follow established emergency procedures in case of vehicle rollover.
- (6) Asphyxiation.
 - (a) Vehicle inspections will highlight any exhaust leakage. Do not idle engines any longer than absolutely necessary or unless used for operation of materials handling equipment (MHE).
 - (b) Sleeping in parked vehicles with the engine or heater running is prohibited.
- (7) Transport of Hazardous Material.
 - (a) All drivers tasked with transporting hazardous material will be trained and certified to do so. They must have certification card on their person.
 - (b) Bilingual placards that comply with Part 171, Title 49, Code of Federal Regulation will be placed on all sides of transports of hazardous materials. Loads will be blocked and braced to prevent shifting.
 - (c) Drivers will follow a preplanned route that minimizes exposure in densely populated areas and park in areas where exposure to inhabited buildings and public gatherings is limited.
 - (d) (Not necessary in tactical environment.) No person(s) will be allowed to ride on or in the cargo compartment of a vehicle transporting hazardous materials.
 - (e) Explosives will not be transported in the passenger compartment of vehicles.
 - (f) An assistant must be used when transporting hazardous materials.
 - (g) Trucks hauling passengers will be separated from any vehicle hauling hazardous cargo by at least one buffer vehicle hauling general cargo.
- (8) Convoy Operations.
 - (a) Reconnaissance will be performed in advance for oversized vehicles.
 - (b) Do not place a passenger-vehicle in a convoy as the last vehicle.
 - (c) Drivers will not back any type of vehicle before first checking for clearance and giving warning.
 - (d) Ground guides will be used in congested areas.
 - (e) If convoys will be traveling at night, the convoy commander should make every effort to keep the convoy small, use secured routes if at all possible that the drivers know and have rehearsed. Tell drivers to make maximum use of night vision devices, and conduct leader reconnaissance whenever possible before the convoy begins.
 - (f) In the event of an air attack, the convoy commander must prescribe alarm signals, give instructions for actions to take while under attack, prescribe actions to take in the absence of orders, ensure that defense procedures are rehearsed, and review procedures with convoy personnel before the convoy moves out.
 - (g) In the event of sniper fire, extreme caution must be taken to ensure that return fire does not enter a no-fire zone.
 - (h) In the event of an ambush, parts of the convoy not trapped in the kill zone must take up defensive position and await instructions from the convoy commander. They must not rush into the kill zone.
 - (i) Decide between an open and closed column defense lineup in convoys.
 - (j) Prepare for terrain obstacles through map studies and route reconnaissance. If the area that you will be traveling through is open to attack, prepare alternate routes.

Performance Steps

(9) Personnel Movement.

- (a) When more than one person (besides the driver) is transported in a cargo truck, there must be adequate fixed seating.
- (b) Before starting the engine, drivers transporting passengers in cargo trucks will make sure all passengers are seated and all safety equipment is in place.
- (c) Drivers will warn passengers not to jump from passenger beds and, upon dismounting, move away from traveled portions of the roadway.
- (d) Drivers will refuse to move any vehicle in which anyone is in an unsafe position.

(10) Risk Management.

- (a) Integrate risk management into mission planning, preparation, and execution.
- (b) Make risk decisions at the appropriate level in the chain of command.
- (c) Accept no unnecessary risk.
- (d) Conduct a risk assessment prior to each mission.

- 3. Submit recommendations to unit commander for approval.

Evaluation Preparation: Setup: Provide the Soldier with the necessary regulations regarding motor transport safety guidelines.

Brief Soldier: You have been delegated to establish a motor transport safety program for a new unit being activated in your area. You are to use existing doctrinal information to include safety in your recommendations that you submit to the commander for approval.

Performance Measures**GO** **NO-GO**

- 1. Reviewed available and existing guidelines.

- 2. Suggested changes to safety guidelines and operations based on:

- 3. Submitted recommendations to unit commander for approval.

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.

References**Required**

AR 385-10
AR 600-55
AR 700-68
CFR 49
FM 5-19
FM 21-305
FM 55-30

Related

Conduct Motor Transport Company Operations

551-88M-4334

Conditions: You have been assigned as the truckmaster, given FM 55-30 and a requirement to conduct company motor transport operations under the supervision of the company commander.

Standards: You have conducted motor transport company operation and ensured each job area of moving vehicles, personnel accountability, vehicle status, and maintenance of vehicles was properly executed.

Performance Steps

1. Review and prepare operations SOPs
2. Maintains visibility over all employed company assets and personnel and current roadnet data.
3. Maintains operational readiness data for all platoons in the company.
4. Maintains operational records and statistical reports.
5. Conducts liaison with supported units.
6. Inspects operational and unit dispatch areas.
7. Establishes procedures for dispatching and security.
8. Maintains centralized operational control over subordinate platoons.
9. Studies plans and operations continuously and prepares estimates, plans, and directives.
10. Receives requests for motor transport support (commitments).
11. Assigns workloads and specific operational tasks to subordinate platoons.
12. Maintains contact and exchanges information with security and intelligence personnel of higher and adjacent units.
13. Makes security inspections.
14. Requests road clearance for convoys and movement of oversize loads.
15. Advises the commander on operational, security, and training matters.
16. Assesses unit environmental risk assessments and advises the commander on their status and outcome.

Performance Measures	<u>GO</u>	<u>NO-GO</u>
1. Reviewed and prepared operations SOPs	_____	_____
2. Maintained visibility over all employed company assets and personnel and current roadnet data.	_____	_____
3. Maintained operational readiness data for all platoons in the company.	_____	_____
4. Maintained operational records and statistical reports.	_____	_____
5. Conducted liaison with supported units.	_____	_____
6. Inspected operational and unit dispatch areas.	_____	_____
7. Established procedures for dispatching and security.	_____	_____
8. Maintained centralized operational control over subordinate platoons.	_____	_____
9. Studied plans and operations continuously and prepared estimates, plans, and directives.	_____	_____
10. Received requests for motor transport support (commitments).	_____	_____
11. Assigned workloads and specific operational tasks to subordinate platoons.	_____	_____
12. Maintained contact and exchanged information with security and intelligence personnel of higher and adjacent units.	_____	_____
13. Made security inspections.	_____	_____
14. Requested road clearance for convoys and movement of oversize loads.	_____	_____
15. Advised the commander on operational, security, and training matters.	_____	_____
16. Assessed unit environmental risk assessments and advised the commander on their status and outcome.	_____	_____

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.

References

Required
FM 55-30

Related

Manage Convoy Manifest

551-88M-4401

Conditions: As an operations sergeant or platoon sergeant given the requirement to conduct a convoy for combat operations. Given the higher headquarters operation order, commander's guidance, and a list of available vehicles, personnel, equipment and cargo.

Standards: You have completed the convoy manifest in accordance with the mission received and provided all copies as needed.

Performance Steps

1. Ensure initial WARNO includes convoy manifest which has detailed information for combat to include:
 - a. Convoy number, if assigned.
 - b. Unit.
 - c. Call sign for each vehicle.
 - d. March Order.
 - e. Convoy Commander.
 - f. Date.
 - g. Personnel Last Name, First Name, and Rank.
 - h. Communications.
 - i. Key equipment/cargo.
 - j. Tasks to be performed.
2. Retain a copy of manifest and file one with company headquarters (HQs).

Performance Measures

1. Ensure initial WARNO includes convoy manifest which has detailed information for combat that included:
 - a. Convoy number, if assigned.
 - b. Unit.
 - c. Call signs.
 - d. March Order.
 - e. Convoy commander.
 - f. Date.
 - g. Personnel Last Name, First Name, and Rank.
 - h. Communications.
 - i. Key equipment/cargo.
 - j. Tasks to be performed.
2. Retained a copy of manifest and filed one copy with company headquarters (HQs).

GO **NO-GO**

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.

References

Required
FM 55-30

Related

Perform Logistics Planning Using MDMP
551-88M-4404

Conditions: As a truckmaster or operations sergeant, given a mission, commander's guidance, and associated references.

Standards: You have provided input and planning considerations for the logistics support of your unit using the Military Decision-Making Process (MDMP) process in accordance with FM 5-0.

Performance Steps

1. Receive Mission.

NOTE: Gather necessary tools.

- a. Appropriate maps/overlays.
- b. Existing Logistics Estimates.
- c. Standing operating procedures (SOPs) (unit and higher headquarters [HQ]).
- d. Appropriate field manuals (FMs).
- e. Logistic status charts.

2. Conduct Mission Analysis.

NOTE: Produce updated Logistics Estimate which is an accurate and current assessment of the combat service support (CSS) situation of the organization. It is an analysis of how CSS factors can affect mission accomplishment.

- a. Gather current Logistic data.
- b. Update Logistic status charts.
- c. Develop Logistics facts and assumptions.
- d. Determine Capabilities.
- e. Determine Requirements.
- f. Determine Shortfalls/Excesses (Impact Upon Mission).
- g. Determine Constraints.
- h. Identify possible solutions (recommendations).

3. Develop Courses of Action.

- a. Updated Logistics Estimates.
- b. Recommendations for placing and employing CSS assets.
- c. Recommended CSS priorities of support.
- d. CSS options available.
- e. Logistic impact upon Friendly Course of Action (COA) Statements.
- f. Logistic impact upon Friendly COA Sketches.

4. Analyze Courses of Action.

- a. Analyze each COA to assess its sustainment feasibility.
- b. Compare sustainment requirements to available assets and capabilities.
- c. Identify potential shortfalls and recommend actions to eliminate or reduce their effect for that COA.
- d. Forecast CSS requirements.
- e. Ensure that available movement times and assets will support the COA.

5. Compare Courses of Action.

- a. Evaluation Criteria for Course of Action Comparison.
 - (1) Identify Logistics assets required to support the friendly scheme of maneuver.
 - (2) Synchronization of support effort with maneuver.
 - (3) Recommended CSS priorities of support based on Commander's guidance and intent for the situation.
 - (4) Recommended allocation of CSS assets.

Performance Steps

- (5) Identifying additional requirements for CSS support.
- (6) Effect of enemy COAs upon CSS mission.
- b. Analyze advantages and disadvantages of each COA from the Logistics perspective.
- c. Present your findings to other staff elements for their consideration.
- d. Ensure that critical CSS considerations are included in the COA comparison process.
- e. Present decision brief to the commander for approval/rejection or modification.
- 6. Obtain Courses of Action Approval.
- 7. Produce Orders.

Performance Measures

	<u>GO</u>	<u>NO-GO</u>
1. Received Mission.	_____	_____
2. Conducted Mission Analysis.	_____	_____
3. Developed Courses of Action.	_____	_____
4. Analyzed Courses of Action.	_____	_____
5. Compared Courses of Action.	_____	_____
6. Obtained Course of Action Approval.	_____	_____
7. Produced Orders.	_____	_____

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.

References

Required
FM 5-0

Related

Manage Battlefield Damage Assessment and Repair (BDAR)
551-88M-4405

Conditions: As an operations sergeant or platoon sergeant in an operational environment, given access to the appropriate equipment and personnel.

Standards: Managed BDAR to return equipment to mission capable status to support combat operations or self-recovery.

Performance Steps

1. State the policy on BDAR in unit standing operating procedures (SOPs).
2. Ensure that unit personnel can state the command BDAR policy.
3. Ensure BDAR manuals are on hand for all unit and supported equipment.
4. Ensure vehicle operators and mechanics are trained in BDAR procedures.
5. Ensure training of new BDAR techniques.

Performance Measures

	<u>GO</u>	<u>NO-GO</u>
1. Stated the policy on BDAR in unit standing operating procedures (SOPs).	_____	_____
2. Ensured that unit personnel can state the command BDAR policy.	_____	_____
3. Ensured BDAR manuals were on hand for all unit and supported equipment.	_____	_____
4. Ensured vehicle operators and mechanics were trained in BDAR procedures.	_____	_____
5. Ensured training of new BDAR techniques.	_____	_____

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.

References

Required

FM 4-30.31
 TC 43-4

Related

Subject Area 13: Logistics Automated Systems

Use Logistics Automation Systems to Manage Unit Equipment**551-88M-4403**

Conditions: You are given operational logistics systems and network, unit's logistical automation requirements, local command directives and regulations, AR 380-5, AR 25-1, AR 700-138, DA Pamphlet 25-1-1, FM 1-02, and TB 380-41.

Standards: Your guidance has resulted in network systems being successfully implemented to manage unit equipment.

Performance Steps

1. Identify systems and their capabilities.
 - a. Transportation Coordinator's-Automated Information for Movements System II (TC-AIMS II).
 - (1) Joint Services automated information system.
 - (2) Designed to function as a universal tool for the UMO, ITO, and theater movement control/mode operations.
 - (a) System for unit movement officers, planners, movement controllers, and transportation operators at all levels.
 - (b) Employed from ITOs at power projection platforms, other TC-ACCIS locations, and from theater level commands to battalion and separate company levels.
 - (3) Provides transportation functions such as plan convoys, request convoy clearances, conduct load planning, and manage mode operations.
 - (a) Supports daily transportation operations.
 - (b) Provides enhancements to the deployment process by building automated unit equipment lists and deployment equipment lists.
 - (4) Supports planning, executing, managing, and reporting movement-related deployment, sustainment, and redeployment activities.
 - (a) Facilitates the movement of personnel, equipment, and supplies.
 - (b) Provides visibility data of those forces from factory to fighting position.
 - b. Movement Tracking System (MTS).
 - (1) Install satellite tracking system on all common user logistic transport vehicles, selected tactical wheeled vehicles, and Army watercraft.
 - (2) Integrate MTS with TC-AIMS II.
 - (3) Facilitates movement control elements, and distribution terminal locations.
 - c. Maintenance: Standard Army Maintenance System (SAMS-1 and SAMS-2).
 - (1) SAMS-1.
 - (a) Maintenance management system that automates shop operations within FSC MCS, BSC MCS, AMC MCS, and ASMC MCS.
 - (b) Provides shop management control of workload, manpower, and supply.
 - (c) Capable of automatically producing work orders, requisitions repair parts, manage shop and bench stock, and provide detailed labor costs related to a specific work order.
 - (d) SAMS-1 information is passed to the SAMS-2 located in respective support operations sections.

Performance Steps

- (e) SAMS-1 interfaces with ULLS-A, ULLS-G, SAMS-2, SAMS-I/TDA, SARSS-1, and SARSS-GW.
- (2) SAMS-2.
 - (a) Provides mid-level maintenance management and readiness visibility at the support operations level through selected maintenance, equipment readiness, and equipment performance reports.
 - (b) Produces management reports related to work orders, shop capabilities, production, backlog, manpower, and parts costs.
- d. Supply: Unit Level Logistics System-Ground (ULLS-G).
 - (1) Located at any unit that has an organizational or tactical field maintenance facility.
 - (2) Designed to be operated by unit level personnel.
 - (3) Automates entire range of supply functions associated with the prescribed load list (PLL), vehicle dispatching, and the Army maintenance management system (TAMMS) function at the motor pool.
 - (4) Interfaces with SARSS-1, SARSS-GW, ULLS-S4, and SAMS-1.
- e. Supply: Unit Level Logistics System-Air (ULLS-A).
 - (1) Located in all aviation units.
 - (2) Performs those functions for aviation that the ULLS-G performs for ground units.
 - (3) Will automate the production control, quality control, and tech supply (Class IX) functions at the aviation unit maintenance (AVUM).
 - (4) Interfaces with SARSS-1, SARSS-GW, ULLS-S4, and SAMS-1.
- f. Supply: Unit Level Logistics System-Battalion (ULLS-S4).
 - (1) Located at all companies, battalion S4s, and brigade S4s.
 - (2) Provides hand receipt accountability for property, requests supplies, and requests transportation.
 - (3) Interfaces with SARSS-1, Standard Property Book System-Revised (SPBS-R), Standard Army Ammunition System-Modified (SASS-MOD), SARSS-GW, and CSSCS.
 - (4) System Requirements.
 - (a) CD-ROM Drive.
 - (b) DOS 6.22.
 - (c) Windows CANNOT be on system.
 - (d) Autoexec.bat and Config.sys must be added before the ULLS-S4 baseline (L3S-00-05) can be loaded.
- g. Standard Army Retail Supply System (SARSS).
 - (1) SARSS-1 Overview.
 - (a) An interactive, menu-driven, automated supply accounting system.
 - (b) Provides asset visibility.
 - (c) Automates supply support functions of the DSB SSA, DASB SSA, FSB SSA, and FSC supply platoons.
 - (d) Processes supply requests, issues, receipts, and tracks storage of items.
 - (e) Interfaces with the ULLS-S4, SAMS-1, SPBS-R, CSSCS, ULLS-A, ULLS-G, and SARSS-2A.
 - (2) Requirements/Capabilities.
 - (a) MS3 baseline.
 - (b) Requires coordination between losing and gaining tactical Army Capital Working Fund SARSS-1 data transfer.

Performance Steps

(3) SARSS-2A Overview.

- (a) Provides intermediate management of supply at the DISCOM level.
- (b) Provides reparable management and tracks excesses.
- (c) Provides referrals by conducting lateral searches among SARSS-1 locations within the division.
- (d) Interfaces with the SARSS-2A(C) located at corps material management center (CMMC).
- (e) CMMC tracks demand and document history, financial record keeping, and conducts lateral searches at corps level.

(4) Requirements/Capabilities.

NOTE: 400Mhz or higher manager work station with 8MB video card.

(5) SARSS-2B Overview.

- (a) Performs non-time sensitive supply management functions for catalog update, document history, demand analysis, and financial interface.
- (b) Employed at the COSCOM MMC, TAACOM, TAMMC, TDA/installation, USARC, and National Guard USP&FO.

(6) SARSS-Gateway Overview.

- (a) Designed to make optimum use of automation and communication techniques by integrating the wholesale and retail supply systems into a single seamless supply system.
- (b) Provides for the same day processing of requests for issue.
- (c) Provides visibility of all assets.
- (d) System includes a Gateway computer system in St. Louis, MO and all units operating a logistics STAMIS.
- (e) Communications (SARSS GATEWAYCOMM_BLAST) links the existing five STAMIS (ULLS, DS4, SAMS-1, SAILS, and SARSS-O) to the SARSS-Gateway using the defense data network (DDN).

h. Standard Property Book System-Revised (SPBS-R).

- (1) Interactive, menu driven, property accountability system.
- (2) Operates in both centralized and decentralized mode.
- (3) Provides asset visibility wherever the requirement exists.
- (4) Interfaces with ULLS-S4, SARSS-1, Tactical Unit Financial Management System (TUFMIS), and CSSCS.

i. Standard Army Ammunition System-Modified (SAAS-MOD). Consolidates three levels of operations into a single software baseline.

- (1) Theater support command material management center (TSC MMC/CMMC), ammunition supply point, and division ammunition office (DAO).
- (2) Designed to manage conventional ammunition, guided missiles and large rockets, and related crating/packing materials.
- (3) Provides formal stock record accountability, asset visibility, in-transit visibility, management control, and automatic-reporting capabilities for ammunition stored at the retail level.
- (4) Supports basic load, war reserve, and operational stock management.
- (5) Supports Class V conventional ammunition missions for units ranging in size from a brigade size task force to theater.

Performance Steps

- (6) Located at the Class V branch of general supply office, division support operations section.
 - (7) Interfaces with SASS, Commodity Command Standard System (CCSS), LOGSA, Worldwide Ammunition Reporting System (WARS), SPBS-R, DAMMS, ULLS-S4, and CSSCS.
 - j. Medical: Medical Communication for Combat Casualty Care (MC4).
 - (1) Theater level, automated combat health system (CHS).
 - (2) Receives, stores, processes, transmits, and reports C2, medical surveillance, patient/movement/tracking, medical treatment, medical situational understanding, and CHL data across all echelons of care.
 - (3) Consists of three basic components.
 - (a) Software: the Joint Theater Medical Information Program (TMIP).
 - (b) Supports Army unique requirements.
 - (c) Interfaces with GCSS-A, CSSCS, FBCB2, warrior programs, and the MTS.
 - (4) Hardware: consists of commercial off the shelf (COTS) automation equipment.
 - (5) Communications: Relies on current and proposed Army solutions for tactical, operational, and strategic telecommunications systems to transmit and receive.
 - (a) Brigade and below will utilize tactical internet.
 - (b) Above brigade will utilize WIN architecture.
2. Prioritize requirements and ensure appropriate system is used to manage equipment and fulfill requirements.

Performance Measures**GO** **NO-GO**

- 1. Identified systems and their capabilities.
 - a. Transportation Coordinator's-Automated Information for Movements System II (TC-AIMS II).
 - b. Movement Tracking System (MTS).
 - c. Maintenance: Standard Army Maintenance System (SAMS-1 and SAMS-2).
 - (1) SAMS-1.
 - (2) SAMS-2.
 - d. Supply: Unit Level Logistics System-Ground (ULLS-G).
 - e. Supply: Unit Level Logistics System-Air (ULLS-A).
 - f. Supply: Unit Level Logistics System-Battalion (ULLS-S4).
 - g. Standard Army Retail Supply System (SARSS).
 - (1) SARSS-1 Overview.
 - (2) SARSS-2A Overview.
 - (3) SARSS-Gateway Overview.
 - h. Standard Property Book System-Revised (SPBS-R).
 - i. Standard Army Ammunition System-Modified (SAAS-MOD).
 - j. Medical: Medical Communication for Combat Casualty Care (MC4).
- 2. Prioritized requirements and ensured appropriate system was used to manage equipment and fulfill requirements.

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.

References**Required**

AR 25-1
AR 380-5
AR 700-138
DA PAM 25-1-1
FM 1-02
TB 380-41

Related

AR 25-2
AR 700-4
AR 700-127
FM 4-93.4

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Chapter 4

Duty Position Tasks

4-1. Military Occupational Specialty 88M10. Operates all types of wheel vehicles and equipment over various types of terrain and roadways for support of combat operations. Manages entrucking and detrucking of personnel being transported. Oversees and checks proper loading and unloading of cargo on vehicles and trailers. Secures cargo against inclement weather, pilferage, and damage. Operates vehicle component material handling equipment (MHE), as required. Employs land navigation techniques. Must be knowledgeable with the operation of radios and weapons when they are mounted on the vehicle. Performs vehicle self-recovery and field expedients to include towing vehicles. Corrects or reports all vehicle deficiencies; supports mechanics where necessary. Prepares vehicle for movement/shipment by air, rail, or vessel.

4-2. Military Occupational Specialty 88M20. Supervises and provides technical guidance to subordinate in accomplishing their duties. Organizes and participates in convoys. Dispatches vehicles; verifies vehicle logbooks. Receives and fills requests from authorized persons for motor transport. Compiles time, mileage, and load data. Operates the Heavy Expanded Mobility Tactical Transport (HEMTT), Heavy Equipment Transporter (HET), and Palletized Loading System (PLS) vehicles to include performing self-recovery operations.

4-3. Military Occupational Specialty 88M30. Supervises drivers performing preventive maintenance check and services (PMCS) on vehicles. Operates in the truck terminal as a squad leader. Trains new drivers and manages the driver sustainment training program. Plans, organizes, and operates a motor vehicle convoy. Performs convoy route reconnaissance. Commands a convoy or serial march unit. Supervises the transporting of all types of cargo. Posts and controls guards used to prevent pilferage and vandalism of cargo and equipment. Takes charge of vehicle recovery. Supervises personnel preparing vehicles for deployment.

4-4. Military Occupational Specialty 88M40. Provides professional support and technical guidance to all Army Soldiers requiring motor transport. Plans, manages, and monitors unit motor transport operations as the truckmaster. Establishes and organizes the unit motor park. Prepares and implements the truck company security and defense plan. Prepares map overlays. Receives and distributes highway motor transport missions. Assembles and prepares highway reconnaissance data for motor convoy transport. Supervises and directs unit dispatching of vehicles. Coordinates engineer requirements to support a truck battalion.

4-5. Additional Skill Identifiers. The following additional skill identifiers (ASIs) are associated with MOS 88M:

- F7--Pathfinder.
- P5--Master Fitness Trainer.
- 2B--Air Assault (personnel only).
- 2S--Battle Staff Operations (SL 3 and above).
- 4A--Reclassification Training.
- 5W--Jumpmaster (personnel only).
- 6T--Military Auditor (Reserve Component personnel only).
- 8P--Competitive Parachutist (skill level 2-4 personnel only).

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Appendix A

Sample DA Form 5164-R (Hands-On Evaluation)

DA Form 5164-R (Hands-On Evaluation) allows the trainer to keep a record of the performance measures a Soldier passes or fails on each task.

Before evaluation:

1. Obtain a blank copy of [DA Form 5164-R](#), that you may locally reproduce on 8 ½ x 11 paper.
2. Enter the task title and 10-digit number from the STP task summary.
3. In Column a, enter the performance measure numbers from the task summary.
4. In Column b, enter the performance measure corresponding to the number in Column a (you may abbreviate this information, if necessary).
5. Locally reproduce the partially completed form when evaluating more than one Soldier on the task or when evaluating the same Soldier more than once.

During evaluation:

1. Enter the date just before evaluating the Soldier's task performance.
2. Enter the evaluator's name, the Soldier's name, and the unit.
3. For each performance measure in Column b, enter a check in Column c (PASS) or Column d (FAIL), as appropriate.
4. Compare the number of performance measures the Soldier passes (and, if applicable, which ones) against the task standards specified in the task summary. If the standards are met or exceeded, check the GO block under STATUS; otherwise, check the NO-GO block.

HANDS-ON EVALUATION For use of this form, see STP 11-25S14-SM-TG; the proponent agency is TRADOC		DATE 1 March 2008	
TASK TITLE Operate Vehicle-Mounted Crane		TASK NUMBER 551-88M-1663	
ITEM a	PERFORMANCE STEP TITLE b	SCORE (Check One)	
		PASS c	FAIL d
1.	Started vehicle engine	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
2.	Prepared crane for operation	<input type="checkbox"/> P	<input checked="" type="checkbox"/> F
3.	Operated crane while following visual hand and arm signals	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
4.	Stowed crane for travel	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
5.	Shutdown vehicle engine	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> P
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
EVALUATOR'S NAME SSG LINDY RUFF		UNIT	
SOLDIER'S NAME PFC RYAN MILLER		STATUS <input type="checkbox"/> GO <input checked="" type="checkbox"/> NO GO	

DA FORM 5164-R, SEP 85 EDITION OF DEC 82 IS OBSOLETE APD V2.01

Appendix B

Sample DA Form 5165-R (Field Expedient Squad Book)

DA Form 5165-R (Field Expedient Squad Book) allows the trainer to keep a record of task proficiency for a group of Soldiers.

Before evaluation:

1. Obtain a blank copy of DA Form 5165-R, which you may locally reproduce on 8 ½ x 11 paper.
2. Locally reproduce the partially completed form if you are evaluating more than nine Soldiers.

During evaluation:

1. Enter the names of the Soldiers you are evaluating, one name per column, at the top of the form.
2. Under STATUS, record (in pencil) the date in the GO block if the Soldier demonstrated task proficiency to Soldier's manual standards. Keep this information current by always recording the most recent date on which the Soldier demonstrated task proficiency. Record the date in the NO-GO block if the Soldier failed to demonstrate task proficiency to Soldier's manual standards. Soldiers who failed to perform the task should be retrained and reevaluated until they can meet the standards. When the standards are met, enter the date in the appropriate GO block and erase the previous entry from the NO-GO block.

After evaluation:

1. Read down each column (GO/NO-GO) to determine the training status of an individual. This will give you a quick indication of which tasks a Soldier needs training on.
2. Read across the rows for each task to determine the training status of all Soldiers. You can readily see which tasks to focus training on.
3. Line through the STATUS column of any Soldier who leaves the unit.

FIELD EXPEDIENT SQUAD BOOK											
For use of this form, see STP 10-92A10-SM-TG; the proponent agency is TRADOC.										SHEET / OF 3	
USER APPLICATION		SOLDIER'S NAME									
STP 21-1-SMCT Soldiers Manual of Common Tasks		<div>Hepler</div> <div>Murphy</div> <div>Smith</div> <div>Jones</div> <div>Gray</div>									
TASK NUMBER AND TITLE		STATUS									
		GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO
071-326-0512 Estimate Range	4-17-04										
071-329-1001 Identify Terrain	4-2-04										
071-311-2004 Battlesight Zero	4-6-04										
878-920-1001 Armored Vehicles	8-8-04										
071-329-1002 Grid Coordinates											
071-329-1003 Magnetic Azimuth											
071-311-2001 MANT M16A1 Rifle											
071-303-1001 MANT M17-SERIES											
081-503-1007 Decontaminate											
031-503-1009 MOPP Gear											
081-831-1031 Buddy-Aid											
081-831-1005 Prevent Shock											
081-831-1009 Frostbite											
071-326-0511 Ract to Flares											
071-325-4407 Employ Hand Grenades											
081-503-1023 Exchange MOPP Gear											
081-831-1005 Prevent Shock											

PREVIOUS EDITIONS ARE OBSOLETE.

DA FORM 5165-R, JUL 2005

AFD V1.00

GLOSSARY

Section I **Acronyms and Abbreviations**

AA	active Army
AAL	additional authorization list
ABS	Anti-lock Brake System
ACCP	Army Correspondence Course Program
ADSM	Automated Data Systems Manual
AIPD	Army Institute of Professional Development
AIMS	Automated Information System Manual
AIT	Advanced Individual Training
AN	annually
ANCOC	Advanced Noncommissioned Officer Course
APU	auxiliary power unit
AR	Army regulation
ARTEP	Army Training and Evaluation Program
ATTN	attention
BA	biannually
BC	bicarbonate
BCS3	Battle Command Sustainment and Support System
BDAR	Battlefield Damage Assessment and Repair
BII	basic issue items
BM	bimonthly
BN	bumper number
BNCOC	Basic Noncommissioned Officer Course

C	Celsius
ccw	counterclockwise
CFR	Code of Federal Regulation
CG	center of gravity
CHU	container handling unit
cm	centimeter(s)
COA	Course of Action
COE	contemporary operating environment
COM	communication
COMSEC	communications security
CONEX	container express
CP	checkpoint or critical point
CROP	Container Roll-In/Roll-Out Platform
CS	control station
CSS	combat service support
CSSAMO	Combat Service Support Automation Maintenance Officer
CTIS	Central Tire Inflation System
CTT	common task test
Ccw	counterclockwise
cw	clockwise
D	Drive
DA	Department of the Army; daily
DAP	Decontamination Apparatus
D.C.	District of Columbia
DD	Department of Defense
DOD	Department of Defense
DS2	decontaminating solution #2

DTO	Division Transportation Officer
D-TRACS	Defense Transportation Reporting and Control System
DVE	Driver's Vision Enhancer
ETA	estimated time of arrival
F	Fahrenheit
FBCB2	Force XXI Battle Command System Brigade and Below
FM	field manual
FORSCOM	Forces Command
Freq	frequency
FSR	Field Service Representative
GM	grid-magnetic
GPFU	Gas Particulate Filter Unit
GPS	Global Positioning System
HAZMAT	hazardous material
HEMTT	Heavy Expanded Mobility Tactical Truck
HEMTT-LHS	Heavy Expanded Mobility Tactical Truck-Load Handling System
HET	Heavy Equipment Transporter
HETS	Heavy Equipment Transport Semitrailer
HMMWV	high-mobility multipurpose wheeled vehicle
HQ	Headquarters
ID	identification
IED	improvised explosive device
ISO	International Standard Organization
ITV	In-Transit Visibility
K	thousand
kg	kilogram(s)
KMPH	kilometers per hour
KPa	Kilo Pascal

L	LO
lbs	pounds
LBV	load-bearing vest
LCE	load carrying equipment
LED	light emitting diode
LHS	Load Handling System
LMTV	light medium tactical vehicle
LOGSA	Logistics Support Agency
m	meter(s)
MCT	Movement Control Team
MDMP	Military Decision-Making Process
METL	Mission Essential Task List
METT-TC	Mission, Enemy, Terrain, Troops Available, Time, and Civilian Considerations
MG	machinegun
MHE	materials handling equipment
MILVAN	military van
mm	millimeter(s)
MO	monthly
MOPP	mission oriented protective posture
MOS	military occupational specialty
MOSC	military occupational specialty code
MPH	miles per hour
MROCS	Materiel Release Order Control System
MTS	Movement Tracking System
MTV	medium tactical vehicle
MTVT	medium tactical vehicle trailer

N	Neutral
N/A	not applicable
NATO	North Atlantic Treaty Organization
NBC	nuclear, biological, and chemical
NCO	noncommissioned officer
NCOIC	noncommissioned officer in charge
NMC	non-mission capable
No.	number
NSN	national stock number
NTE	not to exceed
NVG	night vision goggle
OF	optional form
OIC	officer in charge
OK	okay
OP	observation point
OPLAN	operations plan
OPORD	operations order
OPSEC	operations security
OVE	on vehicle equipment
OVM	organizational vehicle maintenance
PAM	pamphlet
PBUSE	Property Book Unit Supply Enhanced
PLGR	Precision Lightweight GPS Receiver
PLS	Palletized Load System
PMCS	preventive maintenance checks and services
POL	petroleum, oils, and lubricants
psi	pounds per square inch

PTM	Pan/Tilt Mechanism
PTO	Power Take-Off
QTR	quarterly
R	Reverse
RDL	Reimer Digital Library
RP	release point
rpm	revolutions per minute
RSOP	reconnaissance selection occupation of position
S-3	Operations and Training Officer
SA	semiannually
SAT	Saturday
SF	standard form
SL	skill level
SM	Soldier's Manual
SMCT	Soldier's Manual of Common Tasks
SNCO	senior noncommissioned officer
SOP	standing operating procedure
SP	start point
SRW	self-recovery winch
SSN	social security number
STANAG	Standardization Agreement
STP	Soldier Training Publication
Sust	sustainment
TACSOP	tactical standing operating procedure
TC	training circular
TCMD	Transportation Control Movement Document
TCP/IP	transmission control protocol with Internet protocol
TEA PAM	Transportation Engineering Agency Pamphlet

TG	Trainer's Guide
TLO	Terminal Learning Objective
TM	technical manual
Tng	training
TOC	Tactical Operations Center
TRADOC	Training and Doctrine Command
ULLS	Unit Level Logistics System
UNIT	Trained in the Unit
U.S.	United States
USAREC	United States Army Recruiting Command
UTC	Universal Time Code
VA	Virginia
VC	vehicle commander
WHT	white

Section II

Terms

BC Type Fire Extinguisher

Fire extinguishers are separated (based on the types of fire) into four classifications. A Class A extinguisher is for ordinary combustible materials (such as paper, wood, cardboard, and most plastics). A Class B extinguisher is for fires that involve flammable or combustible liquids (such as gasoline, kerosene, grease, and oil). A Class C extinguisher is for fires that involve electrical equipment (such as appliances, wiring, circuit breakers, and outlets). A Class D extinguisher is commonly found in a chemical laboratory. Therefore a BC type fire extinguisher is one that can extinguish fires that consist of flammable or combustible liquids and also electrical equipment.

Critical Task

A collective or individual task determined to be essential to wartime mission, duty accomplishment, or survivability. Critical individual tasks are trained in the training base and/or unit, and they are reinforced in the unit.

Field Manual (FM)

A DA publication that contains doctrine that prescribes how the Army and its organizations function on the battlefield in terms of missions, organizations, personnel, and equipment. The level of detail should facilitate an understanding of "what" and "how" for commanders and staffs to execute their missions and tasks. The FM may also be used to publish selected alliance doctrinal publications that are not readily integrated into other doctrinal literature.

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REFERENCES

Required Publications

Required publications are sources of information that are required in order to understand this publication.

Army Regulations

AR 25-1	Army Knowledge Management and Information Technology 4 December 2008
AR 25-50	Preparing and Managing Correspondence 3 June 2002
AR 55-162	Permits For Oversize, Overweight, or Other Special Military Movements On Public Highways In the United States 1 January 1979
AR 190-11	Physical Security of Arms, Ammunition and Explosives 15 November 2006
AR 380-5	Department of the Army Information Security Program 29 September 2000
AR 385-10	The Army Safety Program 23 August 2007
AR 600-55	The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing) 18 June 2007
AR 611-5	Personnel and Classification Testing 5 February 2008
AR 700-68	Storage and Handling of Liquefied and Gaseous Compressed Gasses and Their Full and Empty Cylinders 16 June 2000
AR 700-138	Army Logistics Readiness and Sustainability 26 February 2004
AR 710-2	Supply Policy Below the National Level 28 March 2008
AR 750-1	Army Materiel Maintenance Policy 20 September 2007

Except where otherwise indicated below, the following forms are available as follows: DA forms are available on the Army Electronic Library (AEL) and the APD web site, www.apd.army.mil.

Department of Army Forms

DA FORM 285	Technical Report of U.S. Army Ground Accident
DA FORM 348	Equipment Operator's Qualification Record (Except Aircraft)
DA FORM 1711	Engineer Reconnaissance Report
DA FORM 2028	Recommended Changes to Publications and Blank Forms
DA FORM 2062	Hand Receipt/Annex Number
DA FORM 2401	Organizational Control Record for Equipment
DA FORM 2404	Equipment Inspection and Maintenance Worksheet
DA FORM 2408-14	Uncorrected Fault Record
DA FORM 5164-R	Hands-On Evaluation (LRA)
DA FORM 5165-R	Field Expedient Squad Book
DA FORM 5823	Equipment Identification Card
DA FORM 5982-E	Dispatch Control Log (EGA)
DA FORM 5983-E	Equipment Operator Qualification Record
DA FORM 5984-E	Operator's Permit Record (EGA)
DA FORM 5987-E	Motor Equipment Dispatch (EGA)
DA FORM 5988-E	Equipment Inspection Maintenance Worksheet (EGA)
DA FORM 6125-R	Road Test Score Sheet (LRA)

Department of Army Pamphlets

DA PAM 25-1-1	Information Technology Support and Services 25 October 2006
DA PAM 385-64	Ammunition and Explosives Safety Standards 15 December 1999
DA PAM 750-3	Soldiers' Guide for Field Maintenance Operations 28 September 2006
DA PAM 750-8	The Army Maintenance Management System (TAMMS) Users Manual 22 August 2005

Department of Defense Forms

DD Forms are available from the OSD web site, www.dior.whs.mil.

DD FORM 518	Accident-Identification Card
DD FORM 626	Motor Vehicle Inspection (Transporting Hazardous Materials)
DD FORM 836	Dangerous Goods Shipping Paper/Declaration and Emergency Response Information for Hazardous Materials Transported by Government Vehicles
DD FORM 1265	Request for Convoy Clearance
DD FORM 1266	Request for Special Hauling Permit
DD FORM 1384	Transportation Control and Movement Document
DD FORM 1970	Motor Equipment Utilization Record

Department of Defense Publications

DOD 4500.9-R, Part III, Defense Transportation Regulation (Mobility) February 2009
http://www.transcom.mil/j5/pt/dtr_part_iii.cfm

Field Manuals

FM 1-02	Operational Terms and Graphics 21 September 2004
FM 3-11.4	Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection 2 June 2003
FM 3-22.68	Crew Served Weapons 21 July 2006
FM 3-25.26	Map Reading and Land Navigation 18 January 2005
FM 4-01.30	Movement Control 1 September 2003
FM 4-30.31	Recovery and Battle Damage Assessment and Repair 19 September 2006
FM 3-34.170	Engineer Reconnaissance 25 March 2008
FM 5-0	Army Planning and Orders Production 20 January 2005
FM 5-19	Composite Risk Management 21 August 2006
FM 5-125	Rigging Techniques, Procedures, and Applications 3 October 1995
FM 7-0	Training for Full Spectrum Operations 12 December 2008
FM 7-1	Battle Focused Training 15 September 2003
FM 10-27	General Supply in Theaters of Operations 20 April 1993
FM 21-10	Field Hygiene and Sanitation 21 June 2000
FM 21-31	Topographic Symbols 19 June 1961
FM 21-60	Visual Signals 30 September 1987
FM 21-305	Manual for the Wheeled Vehicle Driver (AFMAN 24-306) 27 August 1993
FM 25-4	How to Conduct Training Exercises 10 September 1984
FM 25-5	Training for Mobilization And War 25 January 1985

FM 55-15	Transportation Reference Data 27 October 1997
FM 55-17	Cargo Specialists' Handbook 16 February 1999
FM 55-30	Army Motor Transport Units and Operations 27 June 1997
FM 55-60	Army Terminal Operations 15 April 1996

Other Product Types

The OF Form and SF Form below are available through from the GSA website, www.gsa.gov. SARSS publication below can be found at <https://www.cascom.army.mil/private/esd/legacy/sarss/documentation/Index.asp>. MTS publication below can be found at https://www.cascom.army.mil/tsd/tsd_sid/sysintegindex.htm#. AMovP publications below are available at <http://nsa.nato.int/nsa/>. SDDCTEA publications can be found at http://www.tea.army.mil/pubs/nr/deploy/fgpamphlets/PAM_55-20.pdf.

ADSM 18-L1Y-AJT-ZZZ-EM	SARSS-1 End User Manual 1 September 2008
AISM 18-L26-AHO-BUR-EM	Standard Army Maintenance System Level 2 (SAMS-2) End User Manual
CFR 49	Code of Federal Regulations, Title 49, Transportation 1 October 2008
DAAB 15-99-D-0014	Movement Tracking System Users Manual 1 October 2001
MTS CS HANDBOOK	MTS CS Handbook 13 February 2008
MTS PLUS EUM REV B	Movement Tracking System Plus End User Manual CMDC-DOC-076 Rev B 6 January 2006
OF FORM 346	U.S. Government Motor Vehicle Operator's Identification Card
SF FORM 91	Motor Vehicle Accident Report
AMovP-1(A)	Road Movements and Movement Control December 2004
AMovP-3	Movement and Transport Documents and Glossary of Terms and Definitions 7 April 2003
Military Surface Deployment and Distribution Command Transportation Engineering Agency(SDDCTEA) PAM 55-20 Tiedown Handbook for Truck Movements (Fourth Edition) July 2008	

Soldier Training Publications

STP 21-1-SMCT	Soldier's Manual of Common Tasks Skill Level 1 14 December 2007
STP 21-24-SMCT	Soldier's Manual of Common Tasks (SMCT) Warrior Leader Skill Level 2, 3, and 4 9 September 2008

Technical Bulletins

TB 380-41	(O) Security: Procedures for Safeguarding, Accounting, and Supply Control of COMSEC Material 15 March 2006
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Technical Manuals

TM 3-4230-204-12&P	Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Decontaminating Apparatus, Portable, DS2, 1 1/2 Quart, ABC-M11 (NSN 4230-00-720-1618) 31 October 1986
TM 3-4230-216-10	Operator's Manual for Decontaminating Kit, Skin: M258A1 (NSN 4230-01-101-3984) and Training Aid, Skin Decontaminating: M58A1 (6910-01-101-1768) 17 May 1985
TM 3-4240-280-10	Operator's Manual for Mask, Chemical-Biological: Aircraft, ABC-M24 and Accessories and Mask, Chemical-Biological, Tank, M25A1 and Accessories 15 March 1988
TM 3-4230-229-10	Operator's Manual for Decontaminating Kit, Skin: M291, (NSN 4230-01-251-8702) 2 October 1989

TM 3-4240-300-10-2	Operator's Manual for Chemical-Biological Mask: Combat Vehicle, M42 (NSN 4240-01-258-0064) Small, (4240-01-258-0065) Medium, (4240-01-258-0066) Large 30 August 1988
TM 9-243	Use and Care of Hand Tools and Measuring Tools 12 December 1983
TM 9-2320-211-10	Operator's Manual for Truck, Chassis: 5-Ton, 6X6, M39, M39A2, M40, M40A1, M40A2, M40A1C, M40A2C, M61, M61A1, M61A2, M63, M63A1, M63A2, M63C, M63A1C, M63A2C, M63A1D, M63A2D, M139A1, M139A2, M139C, M139A2C, M139D, M139A2D, M139F, M139A1F, M139A2F; Truck, Cargo: M41, M41A2, M54, M54A1, M54A2, M54A1C, M54A2C, M55, M55A1, M55A2; Truck, Dump: M51, M51A1, M51A2; TRUCK, TRACTOR: M52, M52A1, M52A2; Truck, Tractor: Wrecker, M246, M246A1, M246A2; Truck, Van: Expansible, M291A1, M291A2, M291A1C, M291A2C, M291A1D, M291A2D; Truck, Wrecker: Medium, M62, M543, M543A1, M543A2; Truck, Bridging: M139, M328A1, M328A2 and Truck, Logging: M748A1 and M748A2 30 November 1977
TM 9-2320-260-10	Operator's Manual for Truck, 5-Ton, 6X6, M809 Series (Diesel): Truck, Cargo: M813, M813A1 and M814; Truck, Bolster, Logging: M815; Truck, Wrecker, Medium: M816; Truck, Dump: M817; Truck, Tractor: M818; Truck, Tractor, Wrecker: M819; Truck, Van, Expansible: M820, M820A1 and M820A2 and Truck, Stake, Bridge Transporting: M821 (TO 36A12-1C-481) 14 June 1985
TM 9-2320-272-10	Operator's Manual for Truck, 5-Ton, 6X6, M939, M939A1, and M939A2; Series Trucks (Diesel), Truck, Cargo: 5-Ton, 6X6 Dropside, M923 (2320-01-050-2084)(EIC: BRY), M923A1 (2320-01-206-4087) (EIC: BSS), M923A2 (232001-230-0307)(EIC: BS7), M925 (2320-01-047-8769)(EIC: BRT), M925A1 (2320-01-206-4088)(EIC: BST), M925A2 (2320-01-230-0308); 6X6, M936 (2320-01-047-8754)(EIC: BTF), M936A1 (2320-01-206-4078)(EIC: BS6), M936A2 (2320-01-230-0304)(EIC: BTT), (TO 36A12-1C-441) 15 August 1996
TM 9-2320-273-10	Truck Tractor, Line Haul, 50,000 GVWR, 6X4, M915 (NSN 2320-01-028-4395); Light Equipment Transporter (LET), 56,000 GVWR, 6X6, w/Winch, M916 (2320-01-028-4396); Medium Equipment Transporter (MET) 75,000 GVWR, 8X6, w/Winch, M920 (2320-01-028-4397); Truck Chassis, 75,000 GVWR, 8X6 for 20-Ton Dump Truck, M917 (3805-01-028-4389), 56,000 GVWR, 6X6 for Bituminous Distributor Truck, M918 (3895-01-028-4390), 75,000 GVWR, 8X6, for Concrete-Mobile Mixer Truck, M919 (3895-01-028-4391) 15 May 1980
TM 9-2320-279-10-1	Operators Manual for M977 Series 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT), Truck, Cargo, With Winch, M977 (NSN 2320-01-097-0260); Truck, Cargo, With Winch, M977A2 (2320-01-493-3774); Truck, Cargo, With Winch, M977A2R1 (2320-01-493-3782); Truck, Cargo, With Winch, M985E1 (2320-01-194-7032); Truck, Cargo, With Winch, M985E1A2 (2320-01-493-3790); Truck, Cargo, With Winch, M985E1A2R1 (2320-01-493-3792) 21 November 1986
TM 9-2320-279-10-2	Operator's Manual for M977 Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck, Cargo, With Winch M977 (2320-01-097-0260); Truck, Cargo, With Winch, M977A2 (2320-01-493-3774); Truck, Cargo, With Winch, M977A2R1 (2320-01-493-3782); Truck, Cargo, Without Winch, M977 (2320-01-099-6426); Truck, Cargo, With Winch, M985E1 (2320-01-194-7032); Truck, Cargo, With Winch, M985E1A2 (2320-01-493-3790); Truck, Cargo, With Winch, M985E1A2R1 (2320-01-493-3792) 15 June 1987

TM 9-2320-280-10	Operator's Manual for Truck, Utility: Cargo/Troop Carrier, 1-1/4 Ton, 4X4, M998 (NSN 2320-01-107-7155)(EIC: BBD), M998A1 (2320-01-371-9577)(EIC: BBN); Truck, Utility: Cargo/Troop Carrier, 1-1/4 Ton, 4X4, w/Winch, M1038 (2320-01-107-7156)(EIC: BBE), M1038A1 (2320-01-371-9578)(EIC: BBP); Truck, Ambulance, 2-Litter, Soft Top, 4X4, M1035 (2310-01-146-7194)(EIC: BB9 (TO 36A12-1A-2091-1; TM 2320-10/6B) 31 January 1996
TM 9-2320-283-10	Operator's Manual for Truck Tractor, Line Haul; 50,000 GVWR, 6X4, M915A1 (NSN 2320-01-125-2640) 15 May 2006
TM 9-2320-303-10	Operator's Manual for Truck, Tractor, Line Haul: 52,000 GVWR, 6 X 4, M915A4 (NSN 2320-01-458-1207) (EIC: B4M) Truck, Tractor, Line Haul: 54,000 GVWR, 6 X 4, M915A4R2 (2320-01-531-9962)(EIC: BFV) 28 February 2007
TM 9-2320-304-14&P	Operator's, Organizational, and Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Load Handling System, Heavy Expanded Mobility Tactical Trucks (HEMTT) Model M1120 (NSN 2320-01-471-1326) Model M1120A2 (2320-01-492-8221) Model M1120A2R1 (2320-01-492-8230) 15 August 2000
TM 9-2320-360-10	Operator's Manual for Truck, Tractor, M1070, 8X8, Heavy Equipment Transporter (HET) (NSN 2320-01-318-9902)(EIC: B5C) 31 May 2007
TM 9-2320-364-10	Operator's Manual for Truck, Tractor, M1074 and M1075 Palletized Load System (PLS) (NSN 2320-01-304-2277) (2320-01-304-2278) 30 April 2009
TM 9-2320-365-10	Operator's Instructions Manual for M1078 Series, 2-1/2 Ton, 4X4 Light Medium Tactical Vehicles (LMTV) Trk, Car., LMTV, M1078 w/Wn (NSN 2320-01-360-1898)(EIC: BHH), w/o Wn (2320-01-354-3385)(EIC: BHD); Trk, Van, LMTV, M1078 w/Wn (2320-01-360-1891)(EIC: BHG), w/o Wn (2320-01-354-3384)(EIC: BHE); Trk, Chas, LMTV, M1080 (2320-01-353-9098)(EIC: BHC); Trk, Car., LMTV, LVAD, M1081 w/Wn (2320-01-360-1899)(EIC: BHJ), w/o Wn (2320-01-355-3063)(EIC: BHF) 17 June 1998
TM 9-2320-366-10-1	Operator's Instructions Manual for M1083 Series, 5-Ton, 6X6, Medium tactical Vehicles (MTV) Volume No. 1 of 2 Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895)(EIC: BT3); w/o Wn (2320-01-354-3386)(EIC: BR2); Trk, Car., MTV., w/Matl Hdlg Eqpt (MHE) M1084 (2320-01-354-3387)(EIC: BR3); Trk, Car., Air Drop, M1094 w/Wn (2320-01-360-1894)(EIC: BT2); w/o Wn (2320-01-355-3062)(EIC: BTK); Trk, Chas, MTV< LWB, M1096 (2320-01-354-4527)(EIC: BR6) (TO 36A12-1C-1091-1) 15 September 1998
TM 9-2320-366-10-2	Operator's Instructions Manual for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) Volume No. 2 of 2 Trk, Car., MTV, M1083 w/Wn (2320-01-360-1895)(EIC: BT3), w/o Wn (2320-01-354-3386)(EIC: BR2); Trk, Car., MTV, w/Matl Hdlg Eqpt (MHE) M1084 (2320-01-354-3387)(EIC: BR3); Trk, Car.(2320-01-360-1894)(EIC: BT2), w/o Wn (2320-01-355-3062)(EIC: BTK); Trk, Chas, MTV, LWB, M1096 (2320-01-354-4527)(EIC: BR6) (TO 31A12-1C-1091-2) 15 September 1998
TM 9-2330-213-14&P	Operator's, Unit, Direct Support and General Support Maintenance (Including Repair Parts and Special Tools Lists) for Trailer, Chassis: 1 1/2-Ton, 2-Wheel, M103A1 (NSN 2330-00-835-8629), M103A3 (2330-00-141-8052), and Trailer, Cargo: 1 1/2-Ton, 2-Wheel, M105A1 (2330-00-835-8631), M105A2 (2330-00-141-8050), M105A2C (2330-00-542-5689); Trailer, Tank, Water: 1 1/2-Ton, 2-Wheel, 400 Gallon, M107A1 (2330-00-835-8633), M107A2 (2300-00-141-8049), M107A2C (2330-00-

	542-5688); Trailer, Van, Shop: Folding Sides, 1 1/2-Ton, 2-Wheel, M448 (2330-00-631-5692) {TO 36A11-1-461} 9 October 1990
TM 9-2330-356-14	Operator's, Unit, Direct Support, and General Support Maintenance Manual for Semitrailer, Tank: 5000 Gallon, Bulk Haul, Self-Load/Unload M967 (NSN 2330-01-050-5632), M967A1 (2330-01-155-0046); Semitrailer, Tank: 5000 Gallon, Fuel Dispensing, Automotive M969 (2320-01-050-5634), M969A1 (2330-01-155-0048); Semitrailer, Tank: 5000 Gallon, Fuel Dispensing, Under/Overwing Aircraft M970 (2330-01-050-5635), M970A1 (2330-01-155-0047) 26 October 1990
TM 9-2330-358-14&P	Operator's, Unit, Intermediate Direct Support and Intermediate General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Semitrailer, Tactical, Dual Purpose Breakbulk/Container Transporter, 22 1/2-Ton, M871 (NSN 2330-00-122-6779) M871A1 (2330-01-226-0701) 17 December 1987
TM 9-2330-359-14&P	Operator's, Organizational, Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools Lists) for Semitrailer, Flatbed: Breakbulk/Container Transporter, 34 Ton M872 (Theurer Greenville Corp. and Southwest Truck Body Co.) (NSN 2330-01-039-8095) M872A1 (Theurer Greenville Corp. and Heller Corp.) (2330-01-109-8006) M872A2 (Theurer Greenville Corp. and Heller Corp.) (2330-01-119-5837) M872A3 (Southwest Truck Body Co.) (2330-01-142-1385) 9 August 1991
TM 9-2330-381-14	Operator's, Unit, Direct Support and General Support Maintenance Manual for Heavy Equipment Transporter Semitrailer, 70 Ton, M1000 (NSN 2330-01-303-8832)(EIC: CXU) 30 November 1994
TM 9-2330-385-10	Operator's Manual for Palletized Load System Trailer (PLST) M1076 (NSN 2330-01-303-5197) 30 April 2009
TM 9-2330-394-13&P	Operator's, Field Level Manual for the M1082 Series, 2 1/2 Ton Light Tactical Vehicle Trailer (LMTVT) Model M1082 (NSN 2330-01-449-1775) (EIC: CMN) and the M1095 Series, 5 Ton Medium Tactical Vehicle Trailer (MTVT) Model M1095 (NSN 2330-01-449-1776) (EIC: CPK) {TO 36A11-5-23-1} 3 January 2005
TM 9-3990-260-14&P	Operator's, Unit, Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Container Roll-In/Out Platform (CROP) Model M3 (NSN 3990-01-442-2751), Container Roll-In/Out Platform (CROP) Model M3A1 (3990-01-450-5671) 27 July 2001
TM 11-5855-311-12&P-2	Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Driver's Vision Enhancer (DVE) AN/VAS- 5A(V)2 (NSN 5855-01-475-9444) for Generator, Smoke, M56 AN/VAS-5A(V)11 (NSN 5855-01-504-6079) for Family of Medium Tactical Vehicles AN/VAS-5A(V)12 (NSN 5855-01-504-9801) for Heavy Expanded Mobile Tactical Truck AN/VAS-5A(V)13 (NSN 5855-01-504-6080) for Maxi-Ambulance HMMWV AN/VAS- 5A(V)14 (NSN 5855-01-505-2208) for Tow HMMWV AN/VAS- 5A(V)15 (NSN 5855-01-505-2210) for Hard Top HMMWV AN/VAS-5A(V)16 (NSN 5855-01-505-2209) for Prophet/Soft- Top HMMWV AN/VAS-5A(V)17 (NSN 5855-01-555-9600) for Armored HMMWV AN/VAS-5A(V)18 (NSN 5855-01-563-8040) for Mine Resistant Ambush Protected Vehicles PCN 184 080668 00 {TM 8H667-12&P-2} 15 December 2008

Training Circulars

TC 21-305-1	Training Program for the Heavy Expanded Mobility Tactical Truck (HEMTT) 3 October 1995
TC 21-305-2	Training Program for Night Vision Goggle Driving Operations 4 September 1998
TC 21-305-3	Training Program for the M939 Series 5-Ton Tactical Cargo Truck 1 August 1997
TC 21-305-4	Training Program for the High Mobility Multipurpose Wheeled Vehicle 31 May 1991
TC 21-305-5	Training Program for Equipment Transporters (C-HET, MET, and LET) 12 December 1991
TC 21-305-6	Training Program for the Tractor and Semitrailer (M915, M931, and M932) 31 December 1991
TC 21-305-7	Training Program for the Light Vehicles 16 September 1992
TC 21-305-8	Training Program for Medium Vehicles 16 September 1992
TC 21-305-9	Training Program for the Heavy Equipment Transporter System 5 June 1997
TC 21-305-10	Training Program for the Palletized Load System 20 September 1994
TC 21-305-11	Training Program for the Family of Medium Tactical Vehicles Operator 20 May 1999
TC 43-4	Commander's and Shop Officer's Guide for Support Maintenance Management 8 May 1996

Training Support Packages

BCS3 publications below can be found at https://www.cascom.army.mil/tsd/tsd_sid/sysintegindex.html.

BCS3 SYS ADMIN	BCS3 System Administrator- User's Guide 16 November 2004
BCS3 USER	BCS3 User's Guide 16 November 2004

Related Publications

Related publications are sources of additional information. They are not required in order to understand this publication.

Army Regulations

AR 700-4	Logistics Assistance 14 December 2007
AR 700-127	Integrated Logistic Support 17 July 2008
AR 25-2	Information Assurance 24 October 2007
AR 750-43	Army Test, Measurement, and Diagnostic Equipment 3 November 2006

Department of Army Pamphlets

DA PAM 385-63	Range Safety 10 April 2003
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Field Manuals

FM 3-11	Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical Defense Operations 10 March 2003
FM 3-11.5	Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination 4 April 2006

FM 4-01.45	Multi-Service Tactics, Techniques, and Procedures for Tactical Convoy Operations 5 January 2009
FM 4-93.4	Theater Support Command 15 April 2003
FM 10-67-1	Concepts and Equipment of Petroleum Operations 2 April 1998
FM 90-3	Desert Operations 24 August 1993

Other Product Types

SARSS publications below can be found at

<https://www.cascom/army.mil/private/esd/legacy/sarss/documentation/Index.asp>

ADSM 18-L14-AJQ-ZZZ-EM	Standard Army Retail Supply System (SARSS2A) End User Manual. 1 April 1996
ADSM 18-L1Y-AJT-ZZZ-CG	Commander's Guide, Standard Army Retail Supply System Level 1 (SARSS1) 1 August 1996
AIMS 25-L1Y-AJT-ZZZ-EM	SARSS1 and 2 AD End User Manual for Administrators and Operators 15 June 2001
AIMS 25-L3Q-AWC-ZZZ-EM	Commanders Guide (ULLS-G) 15 June 1996

FORSCOM forms and publications can be located at <http://www.forscom/army.mil>.

FORSCOM FORM 285-R	Vehicle Load Card
FORSCOM REG 55-1	Unit Movement Planning 1 March 2000

Technical Manuals

TM 9-2320-392-10-1	Operator's Manual for the M1083A1 Series 5 Ton, 6X6 Medium Tactical Vehicle (MTV) Volume No. 1 of 2. Model Trk, Car., MTV, M1083A1 w/Wn (NSN 2320-01-447-3884) (EIC: BUL); w/o Wn (2320-01-447-3890) (EIC: BT9) Trk., Car., MTV, w/MHC, M1084A1 (2320-01-447-3887) (EIC: BUB); Trk., Car, MTV, LWB, M1085A1 w/Wn (2320-02-447-3897) (EIC: BUR); w/o Wn (2320-01-447-6342) (EIC XXX); w/o Wn (2320-01-447-3889) (EIC: BUA) Trk., Chas., MTV, LWB M1096A1 (2320-01-447-3885) (EIC: XXX); Trk., LHS, MTV, M1148A1 (2330-01-508-8859) (EIC: XXX) {TO 36A12-1C-1157-1-1} 3 January 2005
TM 9-2320-392-10-2	Operator's Manual for the M1083A1 Series 5 Ton, 6X6 Medium Tactical Vehicle (MTV) Volume No. 2 of 2. Model Trk, Car., MTV, M1083A1 w/Wn (NSN 2320-01-447-3884) (EIC: BUL); w/o Wn (2320-01-447-3890) (EIC: BT9); Trk., Car., MTV, w/MHC, M1084A1 (2320-01-447-3887) (EIC: BUB); Trk., Car, MTV, LWB, M1085A1 w/Wn (2320-02-447-3897) (EIC: BUR); w/o Wn Trk., Chas., MTV, LWB M1096A1 (2320-01-447-3885) (EIC: XXX); Trk., LHS, MTV, M1148A1 (2330-01-508-8859) (EIC: XXX) {TO 36A12-1C-1157-1-2} 3 January 2005
TM 9-2330-386-14&P	Operator's, Organizational, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools Lists) for Semitrailer, Tactical, Dual Purpose, Breakbulk/Container Transporter, 22-1/2 Ton M871A2 (NSN 2330-01-294-3367) 28 September 1990

Training Circulars

TC 43-35	Recovery Training 3 October 1995
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STP 55-88M14-SM-TG

19 MAY 2009

By Order of the Secretary of the Army:

GEORGE W. CASEY, JR.
General, United States Army
Chief of Staff

Official:

A handwritten signature in black ink, reading "Joyce E. Morrow". The signature is fluid and cursive, with the first name "Joyce" and last name "Morrow" clearly legible.

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army
0911101

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